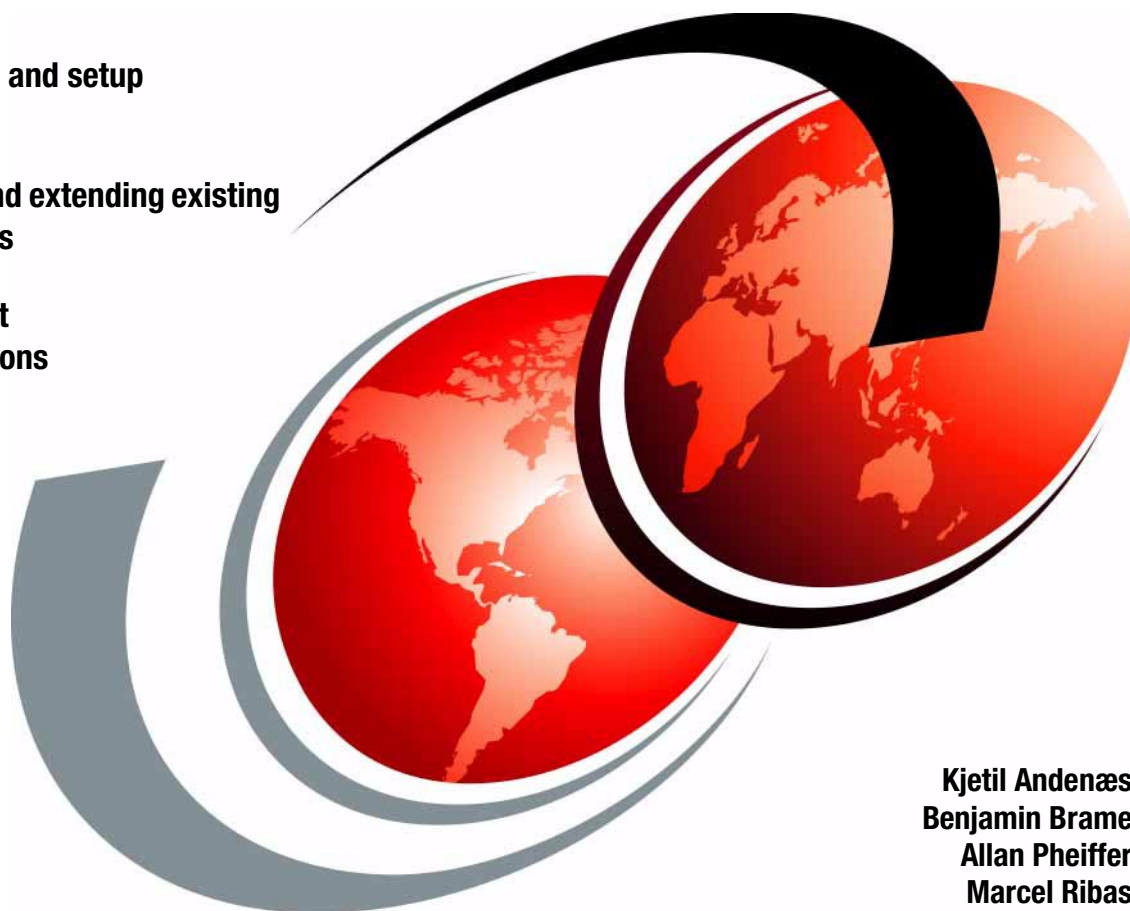IBM

Lotus Mobile and Wireless Solutions

Installation and setup

Enabling and extending existing applications

Deployment considerations

Kjetil Andenæs
Benjamin Brame
Allan Pheiffer
Marcel Ribas

Redbooks

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IBM   International Technical Support Organization

Lotus Mobile and Wireless Solutions

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Contents

Preface

This IBM Redbook explains the new mobile and wireless solutions from Lotus Solutions and IBM. The products described include: Lotus EasySync Pro 4.0, Domino Everyplace Access Server 2.1, Domino Everyplace Enterprise Server 2.5 and 2.6, Domino Everyplace SMS 2.0, Sametime Everyplace 1.0, and IBM Mobile Connect 2.5.1.

We start out by giving a brief description of the products and discuss how each one may be deployed in an organization. The book is then divided into three parts: PIM synchronization, Online access, and Mobile applicatons. Each product falls into one of these categories. In each part we cover the installation in great detail, and mention important issues concerning deployment. We also show how you can develop solutions by using these products.

We have tried to include most of the information you will need to install, tailor, and configure the products, but this book should not be considered as a replacement for the product documentation.

The team that wrote this redbook

This IBM Redbook was produced by a team of specialists from around the world working at the International Technical Support Organization, Cambridge Center.

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Lotus Mobile and Wireless solutions

In today's fast-paced world it is necessary to keep in touch with your workforce. Where mobile phones and PDAs were once considered personal tools, businesses are now realizing the productivity of these devices.

The real value of using Domino Everyplace for making applications available on mobile and wireless devices, is that it is still *a part of the workflow* we are used to in Domino. The information processing on the handheld can be just a part of a process, and hence does not have to take care of all tasks. Information can be partly filled in and then completed later, either by a server agent or by a desktop user.

By designing small, highly focused applications, the mobile users will only have to deal with information that is relevant to themselves, in a specific context.

1.1 Background

Mobile and wireless devices, like advanced cell phones and PDAs, are becoming an accepted part of the enterprise. These devices first made their way into the corporate IT infrastructure as unsupported devices purchased by individuals, for the purpose of personal productivity and organization. Over the past several years, corporations have been realizing the potential of these devices as ways to extend enterprise computing resources, to reach a new user base and provide productivity tools for the existing user base. *Or* they have been forced to face the task of getting these device under control in their company.

Either way, having a strategy for making basic productivity and line of business applications, such as messaging, customer relationship management, and sales force automation available on these devices is important and provides considerable benefit to organizations.

This strategy can help an organization improve worker productivity by removing the cost, connectivity, and power usage barriers inherent to notebook PC use. Pervasive wireless networks, combined with the low cost, long battery life, and *instant on* capabilities of digital cellular phones and PDAs, give users the opportunity to respond to e-mail, create appointments, and book orders in real-time, without relying on phone lines and outlets. These devices cost considerably less than notebook PCs, giving organizations the opportunity to supply users with computing resources at greatly reduced cost. Organizations that would not ordinarily make PCs available to certain workers, such as those working on a shop floor, can now provide access to corporate applications and data without the expense of buying PCs for those users.

This book describes the products from Lotus solutions that will enable you and your company to deal with making such an strategy a reality.

1.2 Lotus wireless and mobile solutions

Lotus is the market leader in providing messaging, personal information management, and collaborative applications in the enterprise. They provide a full range of Mobile and Wireless solutions for Domino as part of the strategy to provide users with the most robust and pervasive messaging and collaborative environment. This book presents six products from Lotus IBM.

These six products can be divided into three general types:

► PIM synchronization (EasySync Pro and IBM Mobile Notes)

► Online access to Domino data and users (Domino Everyplace Access, Sametime Everyplace, and Domino Everyplace SMS)

► Mobile Applications on handheld devices (Domino Everyplace Enterprise)

The basic properties of each product are identified in Table 1-1.

Table 1-1   The products

	Client- or Server-based	Type of integration with Domino	Data flow	Functions
EasySync Pro	Client	Standalone (DLL)	Synchronization	Synchronize PIM data between PDA and Domino
IBM Mobile Connect	Server	Standalone (DLL)	Synchronization	Synchronize PIM data between PDA and Domino
Domino Everyplace Access	Server	Servlet	Online	Make Domino databases available on WAP devices
Domino Everyplace Enterprise	Server	Servlet	Synchronization	Notes client for PDAs. Tools to move Domino applications to this client
Sametime Everyplace	Server	Servlet	Online	Integrates wireless devices with Sametime
Domino Everyplace SMS	Server	Add in task	Online	Short Message routing to wireless devices

The following sections provide a more detailed overview of each product.

1.2.1 EasySync Pro

EasySync Pro is a good product for client-side synchronization. You can use it to synchronize your PDA with your Personal Information Manager (PIM) in Lotus Notes.

Features

You can synchronize your e-mail, calendar, tasks, and contacts between Lotus Notes and your personal digital assistant (PDA). EasySync Pro provides support for Palm OS devices, Windows CE devices, and PocketPC devices.

Since EasySync Pro is based on client-side synchronization, you will have to install and configure the software on your local PC. The product is robust, easy to install, and supports the native synchronization tool that came with your PDA, like HotSync for the Palm device and ActiveSync for WinCE and PocketPC devices, for communication with the PDA. This means that you can connect the PDA with the PC in all the ways (IR-, Serial- and USB-port) that the native tool supports.

EasySync Pro checks your current Notes location setting to automatically synchronize with the mail database on your desktop, or with its replica on your home server. It is, however, fully customizable so you can choose exactly what Domino database to synchronize each different PIM type on your PDA with. (PIM types are contacts, calendar, tasks, and mail.) With EasySync Pro you can even map each field separately or combine several fields into one.

You can put a filter on the synchronization to restrict the amount and type of records being synchronized. This is done for each PIM type separately, and can be based on the value in certain fields or by the date of a task, among others.

The direction of data transfer can be set as you like. You can download all the PIM data in Notes to your PDA, overwriting what is there. Or you can let the PDA upload data to Notes. Normally you will set up EasySync Pro to synchronize bi-directionally, and make one of the parties rule in case of a conflict.

EasySync Pro can be set up to automatically start synchronization when a device is connected, that is, put in its cradle.

Summary
EasySync Pro enables client-based PIM synchronization between Lotus Domino and PDAs running Palm OS, WinCE or PocketPC. Supported types include contacts, calendar, tasks, and mail. The connection is based on the native synchronization tool included with your PDA, using serial-, USB- or IR ports. Installation and configuration has to be done in a distributed way, that is, on each user's PC.

EasySync Pro does not require any installation of software on the PDA or on any server. You only install the software on your PC after installing the native synchronization tool for your PDA.

1.2.2 IBM Mobile Connect

IBM Mobile Connect is a good product for server-side synchronization. You can use it to synchronize your PDA with your Personal Information Manager in Lotus Notes.

Features

You can synchronize your e-mail, calendar, tasks, and contacts between Lotus Notes and your PDA. IBM Mobile Connect provides support for Palm OS, EPOC, WindowsCE, and PocketPC devices.

The IBM Mobile Connect server can be installed on a standalone Windows PC, or on top of an existing Domino server. Which approach to choose depends on the expected number of users. IBM Mobile Connect uses the Domino Directory to handle user authentication and administration.

The end user has to get a little client program installed on their PDA. This handles all the communication with the central synchronization server once it has been given the IP address and port to use on this server. The synchronization process is initiated by the end user entering their usual Notes user name and password in this client on the PDA and selecting synchronize.

The configuration setup that specifies which Domino database to map with which PIM type is done by the administrator of the IBM Mobile Connect server. The end user can either be forced to synchronize all of the PIM types or be asked to select which ones to synchronize each time. The administrator can also adjust the field mapping, filter information, and which data to use in case of a conflict, data from the PDA or data in Domino.

Summary

IBM Mobile Connect enables server-based PIM synchronization between Lotus Domino and PDAs running Palm OS, EPOC, WinCE or PocketPC. Supported PIM types include contacts, calendar, tasks, and mail.

The connection between the server and PDA is TCPIP-based, and can be set up in either of two ways:

- ► Direct cable connection between the PDA and a networked PC, and the use of the Proxy task on the PC to enable it to route the PDA's requests to the server.
- ► By connecting the PDA directly to the net and thereby communicating directly with the server over TCPIP.

These methods can also be combined.

Installation and configuration is done on the server. Users can be allowed to change certain settings, but the Administrator can force a consistency for the PDAs. If you want to enable connection through a networked PC you must install the proxy client on the PC. There is no need for any configuration or changes to the proxy.

IBM Mobile Connect does require the installation of software on the PDA. This can either be done by each user, or the PDAs can be installed centrally by an administrator.

1.2.3 Domino Everyplace Access

Domino Everyplace Access allows users with WAP-enabled devices to access information from Domino in real time. Based on an XML architecture, Domino Everyplace Access extends the value of Domino e-collaborative services to the latest generation of WML-based microbrowser devices. As a Domino servlet, it acts as a proxy for handling communications between Domino servers and wireless devices. Domino Everyplace Access supports a broad range of industry standard protocols for connecting to the world's most popular wireless data services and major cellular phone networks, such as GSM, CDPD, TDMA, CDMA, and iDEN.

Features

Domino Everyplace Access provides you with full PIM integration to Domino. This means that you are able to access all your PIM data in Domino from one single point of entry (URL). You can read your mail, schedule appointments, search for contacts, and check your tasks.

The software is designed to complement the Lotus client by providing Notes users with access to these applications at any time, from any place, by converting Domino data into wireless markup language (WML)—the standard language used by WAP phones.

Domino Everyplace Access also provides you with the possibility to create customized WAP solutions based on standard Domino applications, such as sales force automation, field service, and customer relationship management. Applications are easily deployed by use of the Domino Directory (somewhat customized by the installation of Domino Everyplace Access).

The home page for Domino Everyplace Access can be customized by the user. You can simplify the home page by removing unwanted entries; and add access to customed Domino applications and links to WAP-enabled websites. This can be done for groups of users as well as for the individual user. As with other Domino solutions, all administration is done centrally.

Security is taken good care of in Domino Everyplace Access. You can associate an authorized user with each mobile device, track what network a device is used on, encrypt data in transmission, and more. Familiar, robust Domino security features control who gets into your network and what gets out over it. Domino Everyplace Access builds on this secure environment with new standards such as Secure Sockets Layer (SSL) and Wireless Transport Layer Security (WTLS).

Summary

Domino Everyplace Access enables you to make your company Notes data available to WAP devices. This requires your server to be reachable from the internet, unless you want to supply your own dialup service and WAP gateway. The devices used must be WAP 1.1 compliant.

1.2.4 Sametime Everyplace

Sametime Everyplace is a product that makes wireless collaboration possible. It extends the reach of the standard Sametime server, acting as a connector for mobile devices by simulating multiple clients on the server-side.

Features

Sametime Everyplace gives you the ability to set up instant messaging and awareness for mobile devices in a Sametime environment. Deploying Sametime Everyplace enables desktop users to see when mobile users are online and lets desktop users send messages to mobile users. The other way around, the mobile users can log on and see who is active on the net, either to send them a message, or to call the right person at once, without having to try a number of absent or busy people first.

Given the formats and interfaces of the currently available phones and wireless devices, you should not expect Sametime Everyplace to be used for chat to the same extent the standard Sametime client is. The goal is to have an integrated way to provide support for mobile awareness and the possibility of geyying on contact with mobile workers.

Quick text messages is a feature that enables the user to send predefined messages, such as "I'm driving to work" or "Call me @..." saving time and reducing typing. The user only fills in the missing parts, if any.

Sametime Everyplace has a user-configurable profile, where you can define your contacts list, inactivity time out, if you want auto log on/log off, who should see you online, and more. This profile can be edited both from an HTML browser on a desktop and from a WML 1.1 browser on a mobile device.

Auto log on/log off means that it is possible to predefine when you are available and have the server automatically log you on and off of Sametime. Simply define the hours you're available and other Sametime users know if you're busy or free to respond.

Sametime Everyplace uses all the same conventions and notations as the standard Sametime client, so apart from the obvious constraints on the mobile client, it should be easy to move between the mobile and desktop versions. An icon and status indicator shows whether the user is mobile, online, or unavailable. You can see who's online and chat with one or more users.

In addition, Sametime Everyplace has features designed especially for the mobile user environment. Shorter, mobile user names can be displayed on devices. Mobile users can define a time-out value that automatically logs them off of Sametime Everyplace and changes status to offline. Personal mobile contact lists can be edited both from the desktop and the mobile device. Mobile users can search for a name and select from matches found in all directories, similar to Sametime.

Users can maintain separate privacy control when they are mobile versus at a desktop. For example, a mobile support engineer may be online all day to a group of users, but may be available only to a manager during the night. If mobile users are offline or unavailable and cannot receive messages, messages can be received at a later time.

Sametime Everyplace also includes a licence for Domino Everyplace SMS, which provides you more control over the messages. See the next section for more information on Domino Everyplace SMS.

Summary

Sametime Everyplace enhances standard Sametime, and hence requires that Sametime is installed.

With Sametime Everyplace, you enable wireless WAP devices with awareness and instant messaging capabilities in much the same way that you are used to with the Sametime on your desktop.

Wireless devices of other types, if they can hold an SMTP address, can be integrated by entering this address into the user profile. Then, when chatting with you, people actually send you messages to an SMTP address.

Other types of wireless devices that support short messaging, can be integrated to Sametime Everyplace by using Domino Everyplace SMS.

1.2.5 Domino Everyplace SMS

Domino Everyplace SMS is a messaging gateway that seamlessly converts Notes messages to SMS or pager messages, thereby leveraging Domino's messaging and routing services.

Features

With Domino Everyplace SMS deployed in your organization, e-mail messages can be sent to and received from pagers, SMS devices, and other wireless devices, right in the user's Domino mailbox.

Domino Everyplace SMS is configured as a "foreign" Domino domain and routes messages to and from pagers, cellular phones and other mobile devices that support one- and two-way messaging. Domino handles this just like any other routing of messages. This way it can easily be used to extend the reach of applications. Applications can be modified to automatically send alerts and notifications to wireless devices, just by applying the standard MailSend functions in Domino.

An example of such an application could be to have automated agents monitor your e-mail to keep you informed of urgent issues when away from your office. Another could be to let a support person know about an upcoming task when not at his desk.

Users can compose and send messages to any mobile device without knowing its phone number, PIN, or wireless data service since the device is set up with an alias in the "foreign" Domino domain.

The administration of Domino Everyplace SMS is centralized. Device profiles can be defined for users, providing details about devices and what services to use in order to connect them.

The administration process can provide defined connections to an SMS center or a paging network, but this requires that you have all the right information from the provider. You should allow for some time to do this when planning the deployment.

Domino Everyplace SMS integrates with Sametime Everyplace through the use of application profiles. Integration with Sametime Everyplace enables desktop users to send messages from the Sametime Connect client to mobile users who are online with Sametime Everyplace. If you only use a wireless device that is not capable of using WAP, you are never really *online* with your device. You can then use the feature of automatic login to "simulate" a session, and tell that you are available for messages.

Domino Everyplace SMS supports dial-up, TCP/IP, and X.25-based connectivity to ensure timely message delivery to all your wireless data services. It works with all major cellular phone networks, as well as all major paging and wireless packet data networks.

An example of a use for Domino Everyplace SMS would be to create a Web site that enables employees, customers, suppliers, and other partners to send messages to mobile devices inside an organization, and possibly receive replies. A customer would then use a Web browser to compose a message and send it to recipients selected from a list of Domino Everyplace SMS users, without needing to know any cell phone numbers. Such a site would be easy for administrators to configure and for visitors to use, ensuring both privacy and convenience.

Summary

Domino Everyplace SMS is used to enable two-way short messaging between Domino and wireless devices. This could be any type of wireless device, including SMS phones and pagers. By deploying Domino Everyplace SMS in its own Domino domain, you get a gateway for Domino to provide efficient communication with wireless devices while hiding all the complex configuration.

1.2.6 Domino Everyplace Enterprise

Domino Everyplace Enterprise, together with the Lotus Mobile Notes client, provides organizations with a complete solution to easily develop and implement applications that extend their existing Domino infrastructure to the full spectrum of mobile and wireless devices.

Features

Domino Everyplace Enterprise extends the messaging and collaboration power of Domino and enables you to develop powerful solutions that provide secure access to enterprise data.

Domino Everyplace Enterprise lets organizations provide both wireless and wired sync solutions to mobile workers quickly and easily by leveraging the collaboration power of Domino. Combined with the Mobile Notes client, Domino Everyplace Enterprise optimizes your investment in Domino by extending core business applications and infrastructure to mobile and wireless devices. Easy to set up, deploy and administer, Domino Everyplace Enterprise is a powerful solution that provides mobile users access to their most critical information anytime, anywhere.

Domino Everyplace Enterprise provides a robust development tool to rapidly convert existing Domino applications to mobile applications or to develop new mobile applications. With it you can convert or create key business applications such as sales force automation, customer relationship management, and supply chain management for use by mobile workers. The mobile application development architecture creates a mobile framework with internal design notes, compiler documents, and filters used by an XML translator that converts your Notes/Domino application into a mobile application.

This flexible architecture lets you use existing skill sets to design mobile applications in Domino Designer and eliminates the need to learn another integrated development environment (IDE). Domino Everyplace Enterprise also provides a mobile application testing utility that lets you easily run and test applications prior to deployment. Reference applications provide examples of collaborative applications such as messaging and personal information management you can create for mobile use. The interface is simple, intuitive, and powerful.

Summary

Domino Everyplace Enterprise has three major components: sync services for Domino, an application development tool and the Mobile Notes client.

The *sync services*, based on industry standards such as XML and SyncM, enable mobile workers to work offline and synchronize applications and data between Domino servers and PDAs, regardless of the type of connectivity.

The *application development tool* lets you easily and securely create custom mobile applications that connect to your Domino enterprise data from mobile and wireless devices. This development tool builds a mobile application framework to rapidly extend Domino-based business applications or create new applications for PDAs using Lotus' flagship development environment, Domino Designer.

The *Mobile Notes client* delivers Lotus Notes application functionality to PDAs running the following systems: the PalmOS, Windows Pocket PC and EPOC platforms.

1.3 Runtime scenarios for Domino Everyplace

This section shows how Domino Everyplace products can be deployed in an enterprise, described by using the topology of runtime patterns.

Attention: It is important to remember that, despite the way that the diagrams have been drawn, the Domino server and Domino databases are not easily separated. Both should coexist on the same machine regardless of platform.

1.3.1 Domino Everyplace Access

Here is a short overview of some issues concerning deployment of Domino Everyplace Access in an enterprise.

A WAP gateway must be present in order for a WAP device to connect to Domino Everyplace Access. This could be provided either by the carrier, an ISP, or by the enterprise itself. The preferred way for most deployments will be to let the carrier take care of this. In some situations it could be justified for the enterprise to host this itself, to gain total control over network traffic and security. Domino Everyplace Access offers an option to specify which WAP gateway should be allowed access.

Unless the enterprise provides its own dial-in and WAP gateway service, deploying Domino Everyplace Access means that some of the company servers will be connected to the internet. It is therefore important to take a firewall solution into consideration if you do not already have one. In Figure 1-1 we show how this can be viewed in a runtime pattern topology.
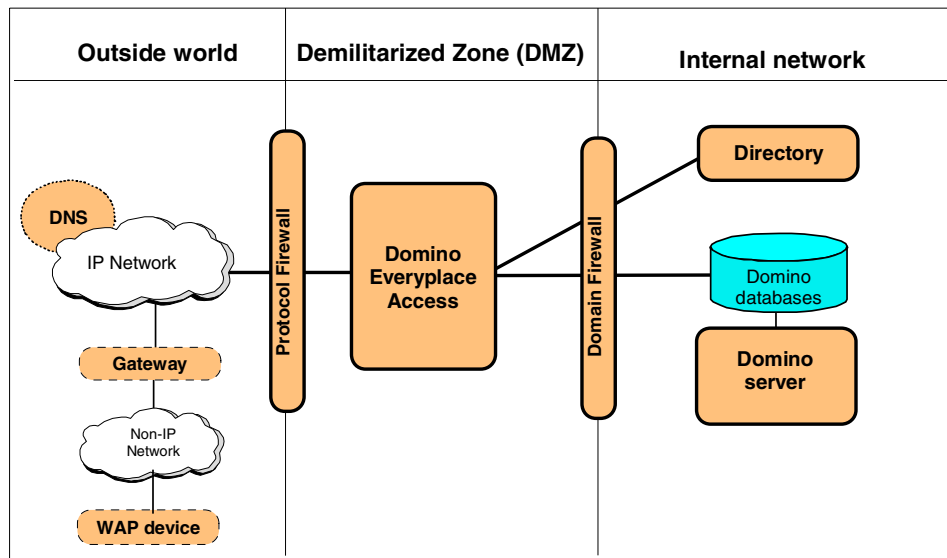
Figure 1-1   Runtime topology for Domino Everyplace Access

Domino Everyplace Access is the only entity needed in the DMZ. This is then configured to access the different parts of the enterprise inside the domain firewall. Domino Everyplace Access acts like a pointer to mobilized applications.

1.3.2 Domino Everyplace SMS

Here is a short overview of some issues concerning deployment of Domino Everyplace SMS in an enterprise.

Many wireless devices do come with an SMTP address that can be used for messaging. You can use this SMTP address for communication with Domino Everyplace SMS. If you do not have an SMTP address for the wireless device, you can configure Domino Everyplace SMS to communicate directly with your carrier.

In the first case, where we used an SMTP address for the wireless device, the topology will look like that shown in Figure 1-2. The communication between Domino Everyplace SMS and the wireless device routes through the internet.
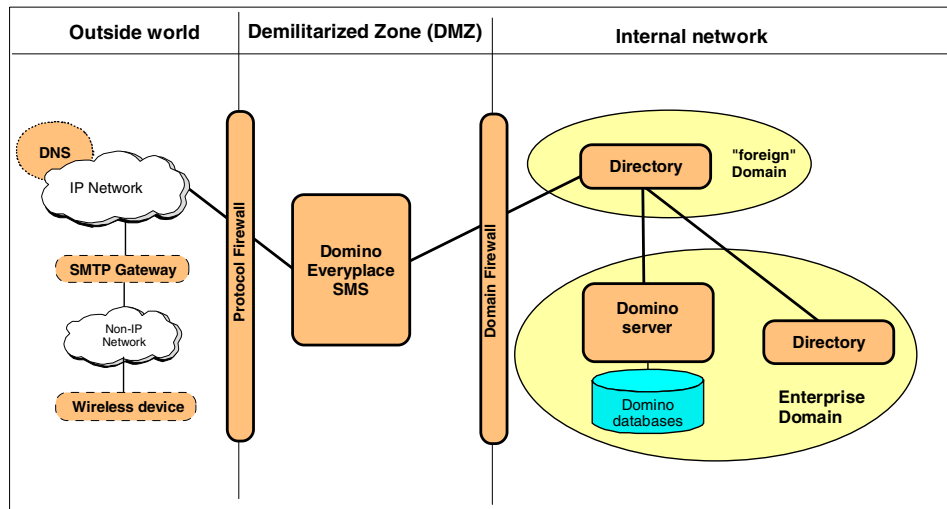
Figure 1-2   Runtime topology for Domino Everyplace SMS using SMTP for communication with the wireless device

In the second case, where we configure communication direct to the carrier, the domain firewall is no longer needed. We assume that there is some security in the communication with the carrier, like username/password, restriction of caller/connector, and so on. This topology is illustrated in Figure 1-3 on page 14.
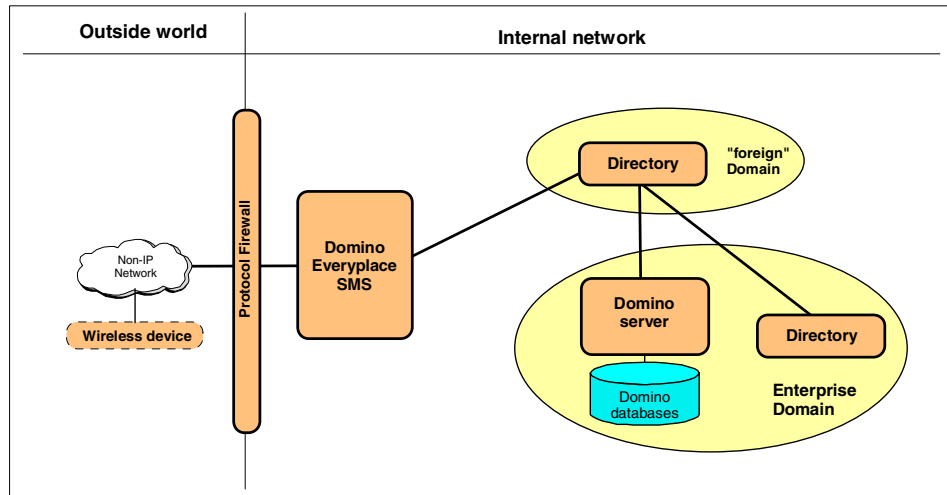
Figure 1-3   Runtime topology for Domino Everyplace SMS

Apart from the domain firewall, the entities in the internal network are the same in both cases. First thing to mark is the separate domain for the Directory being used by Domino Everyplace SMS. This is done both to protect the real enterprise directory and to make a clean integration to Domino messaging in the enterprise. You simply create a unique alias for each wireless device connected to Domino Everyplace SMS, and people inside the enterprise can use the following format to send mail to the device:

```
<Domino Everyplace SMS alias>@<foreign domain name>
```

1.3.3 Sametime Everyplace

Here is a short overview of some issues concerning deployment of Sametime Everyplace in an enterprise.

A WAP gateway must be present in order for the WAP device to connect to Sametime Everyplace. This could be provided either by the carrier, an ISP, or by the enterprise itself. The preferred way for most deployments will be to let the carrier take care of this. In some situations it could be justified for the enterprise to host this itself, to gain total control over network traffic and security. Sametime Everyplace offers an option to specify which WAP gateway should be allowed access.

Unless the enterprise provides their own dial-in and WAP gateway service, deploying Sametime Everyplace means that some of the company servers will be connected to the internet. It is therefore important to take a firewall solution into consideration if you do not already have one. In Figure 1-4 we show how this can be viewed in a runtime pattern topology.
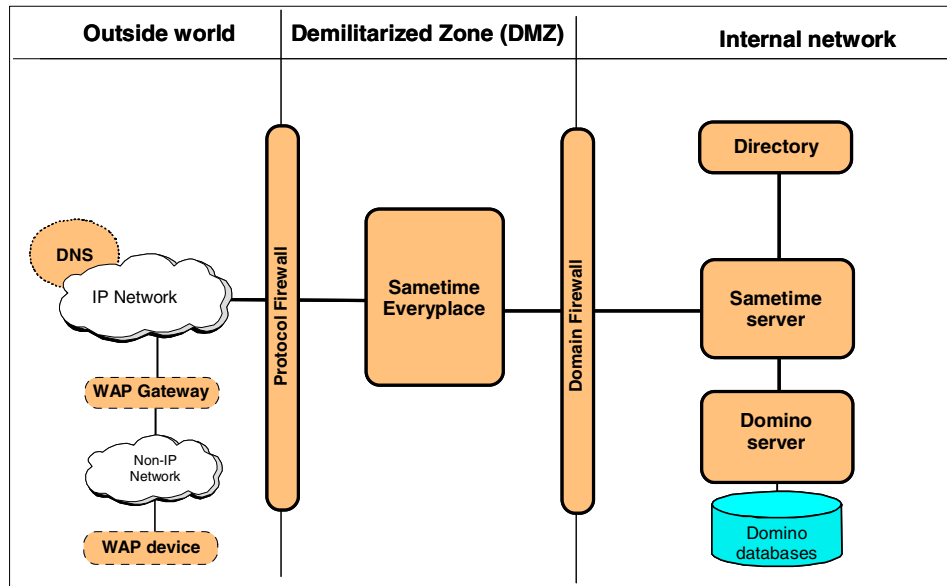
Figure 1-4   Runtime topology for Sametime Everyplace

As the figure shows, you only have to put the Sametime Everyplace server in the DMZ. This way you only allow wireless devices access to Sametime from the outside world. In order for the desktop Sametime users to be able to connect from the outside world, the Sametime server should also be put in the DMZ.

As stated previously, Domino Everyplace SMS is included with Sametime Everyplace, for use with Sametime Everyplace. The topology for deploying Sametime Everyplace with Domino Everyplace SMS in an enterprise is shown in Figure 1-5 on page 16.

Here we use wireless devices that have an SMTP address. Incoming messages then go through the internet, through the foreign domain used by Domino Everyplace SMS, into the domain of the enterprise. Sametime Everyplace is registered as an application capable of receiving messages.
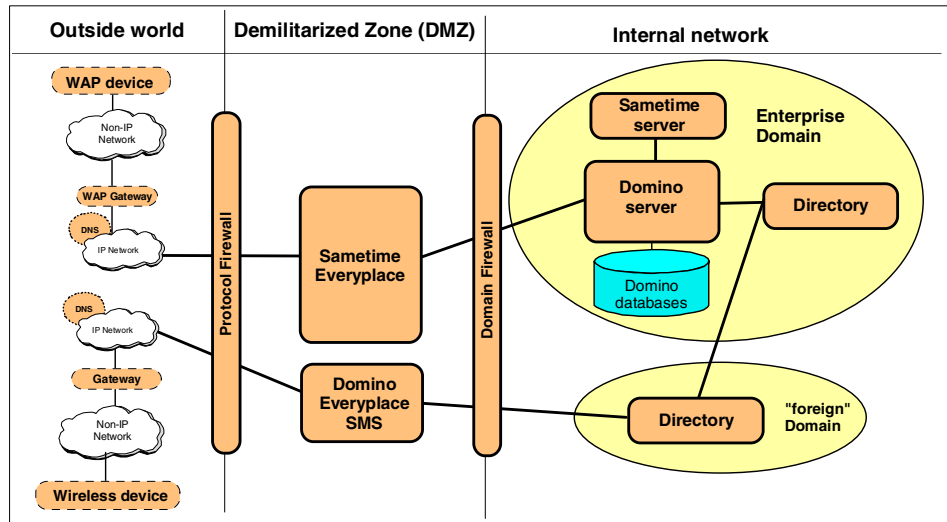
Figure 1-5   Runtime topology for Sametime Everyplace together with Domino Everyplace SMS

1.3.4 Domino Everyplace Enterprise

Domino Everyplace Enterprise can be deployed in a number of ways in an enterprise. One possible approach is to set it up as an exclusive service inside the internal network, as shown in Figure 1-6.
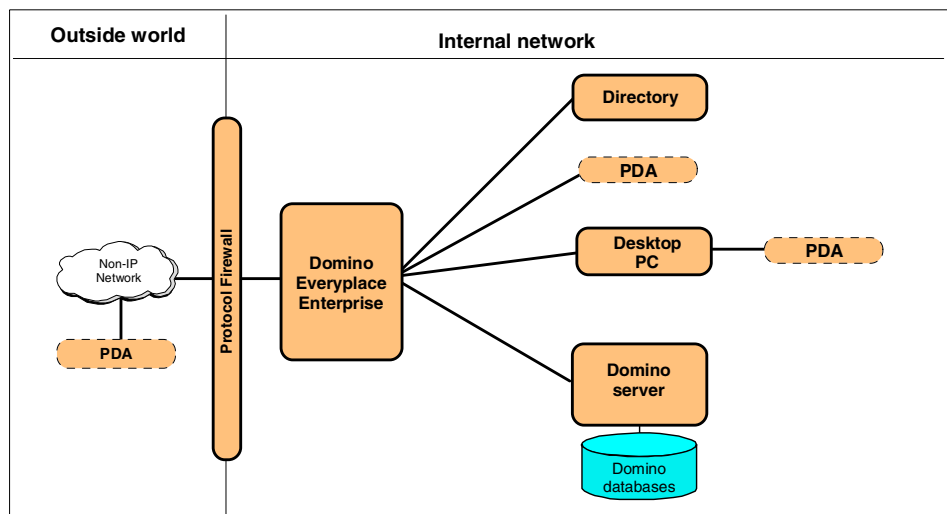
Figure 1-6   Domino Everyplace Enterprise on the internal network only. Dial-in from the outside world.

Another approach is to make it reachable from the outside world as well (see Figure 1-7). This is convenient when the workforce is primarily mobile.

The PDAs can be connected to the net in a number of ways, specifically:

► Via a serial connection to a networked PC

► Direct to the internal network using an ethernet cradle or network card

► Dial-in RAS service to a machine inside the enterprise

► Connection through internet

Which method to choose in each case depends on the relative importance of availability versus security for the enterprise. Cost and hardware availability do obviously also come into consideration.
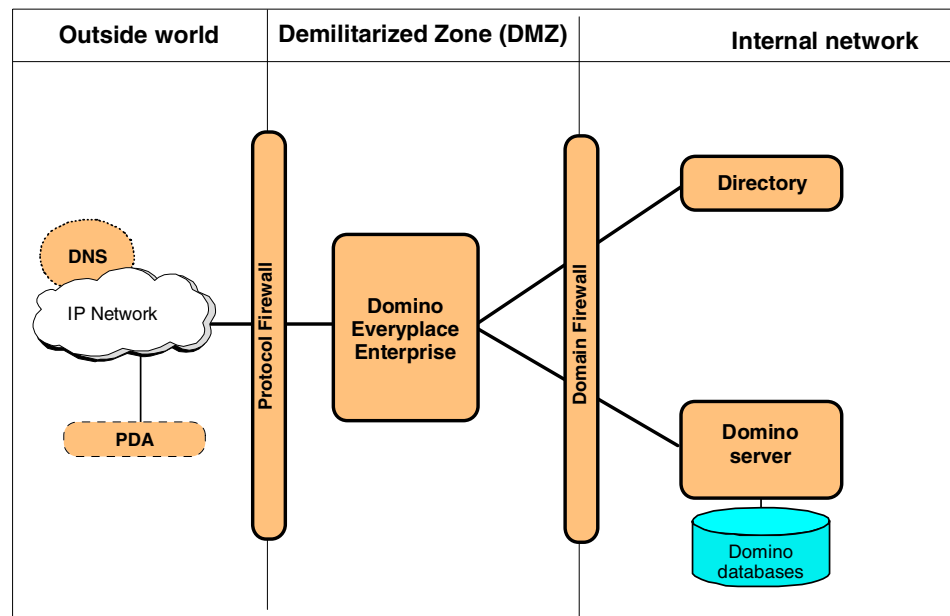
Figure 1-7   Domino Everyplace Enterprise made available through the internet.

1.3.5 IBM Mobile Connect

Deployment of IBM Mobile Connect in an enterprise deals with most of the same issues as Domino Everyplace Enterprise. There are really the same entities in the topology; the difference lies in the data being transferred. Figure 1-8 on page 18 shows a combined approach for IBM Mobile Connect deployment in an enterprise.
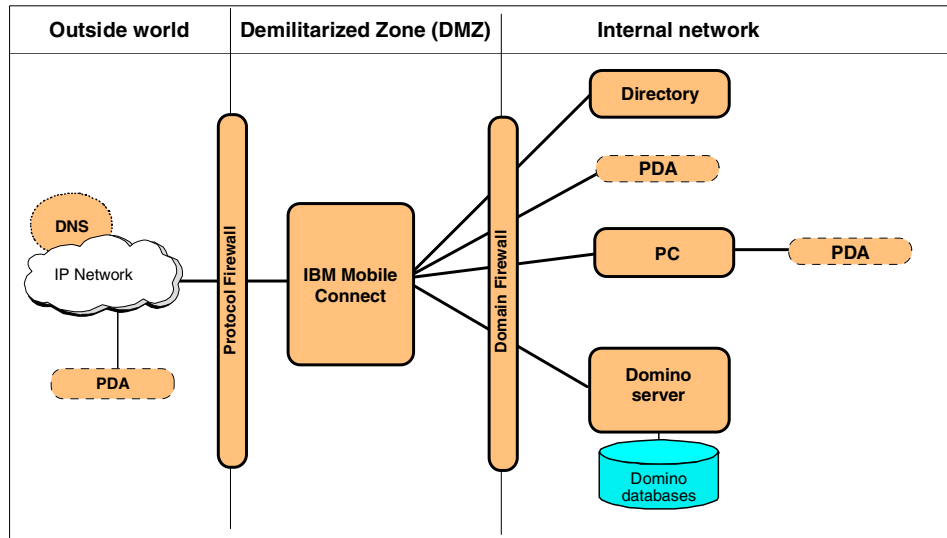
Figure 1-8   Combined approach for IBM Mobile Connect

1.3.6 EasySync Pro

Deployment of EasySync Pro in an enterprise is a bit different than that for IBM Mobile Connect because it is the user's PC that does the work. The PDA connects directly to the PC via the serial, Infrared, or USB port. As we described in 1.2.1, "EasySync Pro" on page 3, it is the native synchronization tool for the PDA that provides the connection between the PDA and the PC. The PC has to have EasySync Pro and the Notes client installed. EasySync Pro uses the Notes client to connect to the Domino server holding the mail database for the user. Authentication is done by using the active Notes ID file on the PC.
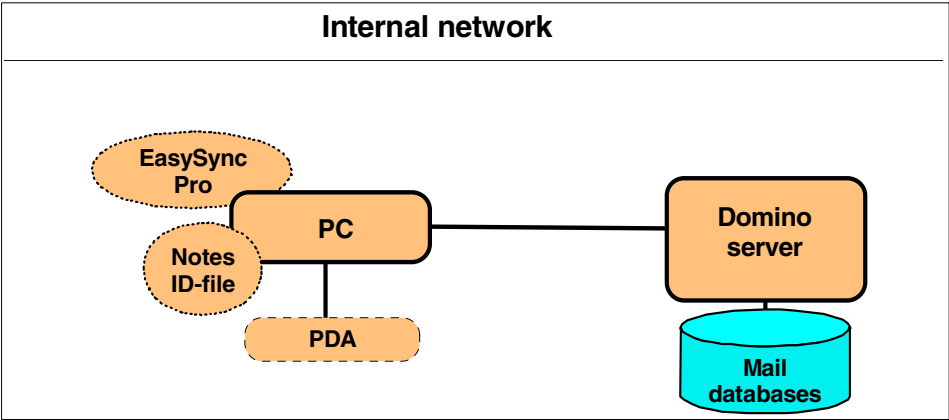
Figure 1-9   Deployment of EasySync Pro in the internal network of an enterprise

EasySync Pro makes it possible to map the PDA applications to databases other than the mail database. The possible databases to select from are the ones held by all the Domino servers in the internal network that the PC can reach.

It is also possible to synchronize your PDA from the outside world using the approach in Figure 1-10 or Figure 1-11.
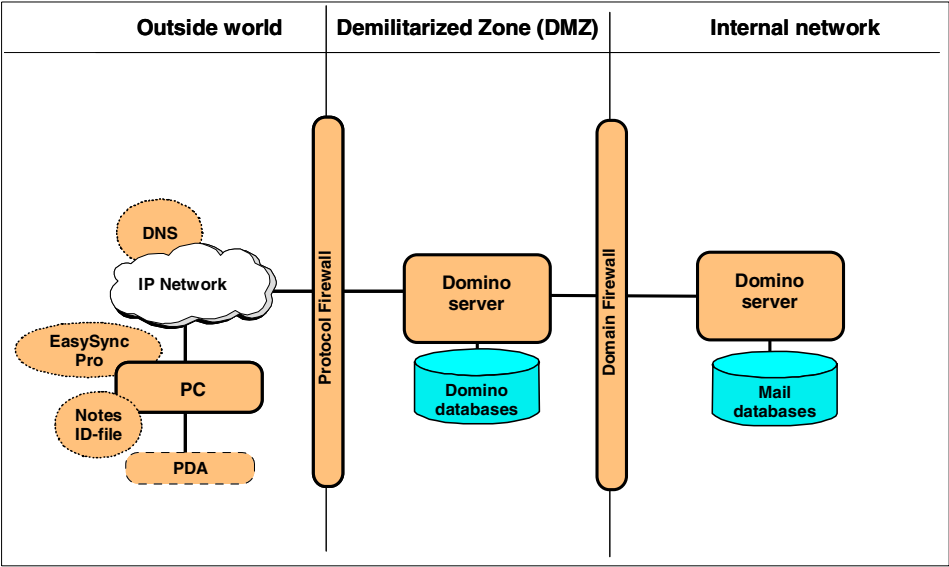
Figure 1-10   Deployment of EasySync Pro routing through the internet

We still need to connect the PDA directly to a PC running EasySync Pro and a Notes client. This Notes client should then be able to connect to the Domino servers in the enterprise. This can be done either by using an internet connection or by setting up a dial-in service.
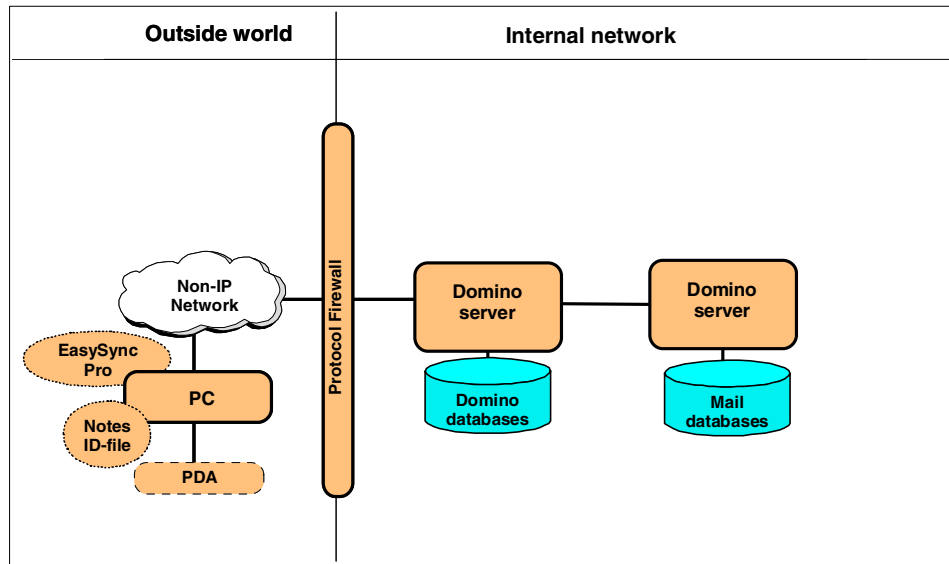
Figure 1-11   Deployment of EasySync Pro using dial in to the enterprise

Part 1

Personal information management

Personal information management (PIM) includes the task you do when planning your days (scheduling) and dealing with personal contact information. Paper-based personal planners have been around for a very long time, but in recent years many people have adopted personal digital assistants (PDAs)—the electronic equivalent to a filofax.

To make the most use of the PIM data on your PDA, you must establish some kind of synchronization with your PC or network. There are basically two ways to do this: *client-side synchronization* or *server-side synchronization*. In this part we describe how to set up both types of synchronization using software from Lotus Solutions and IBM.

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2

EasySync Pro

This chapter provides an overview of the features of EasySync Pro, and describes how to install and configure it.

EasySync Pro is a good product for client-side synchronization. After quick and simple installation of EasySync Pro on your local PC, you can connect your device to your PC to synchronize your PDA with your PIM in Notes.

This means that you can synchronize your e-mail, calendar, tasks, and contacts between Lotus Notes and your personal digital assistant. EasySync Pro provides support for the following PDAs:

- ► Palm OS devices
- ► Windows CE devices
- ► Pocket PC devices

2.1 Installation

Use the following steps to install EasySync Pro on your PC.

1. Run Setup.exe from the CD.

2. Click **Next** in the first dialog and you should get a dialog like Figure 2-1.
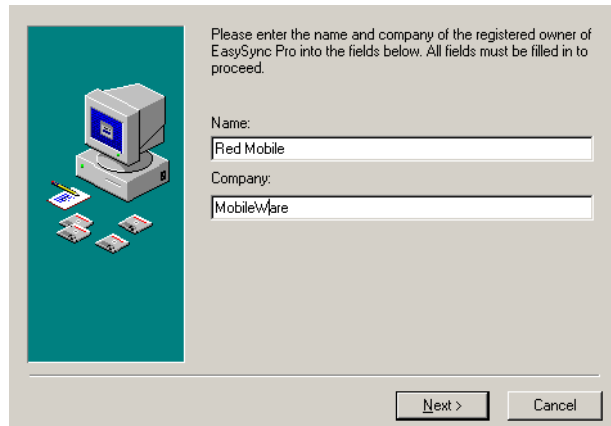
Figure 2-1   Input name and company information

3. Enter your name and company information. Click **Next**.
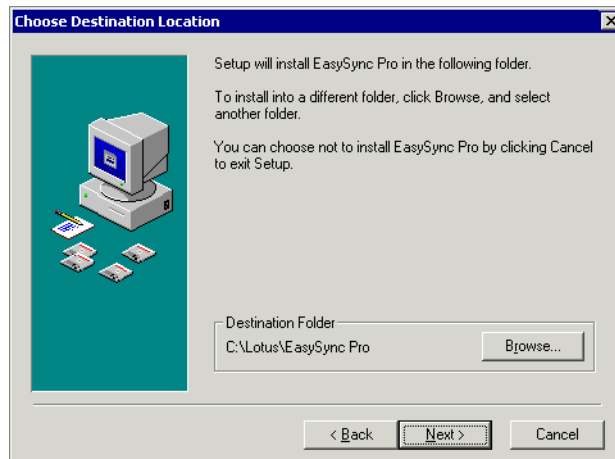
Figure 2-2   Decide program path

4. Use the default path, or click the **Browse** button to select a different location.
   Click **Next**.
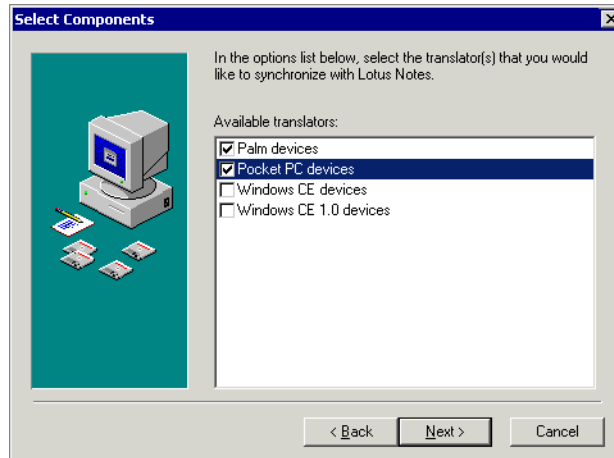
Figure 2-3   Select devices to synchronize with

5. Select the devices that you want to synchronize with. Click **Next**.
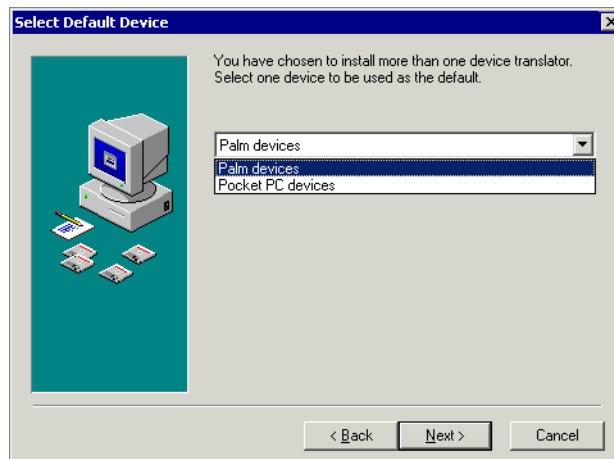
Figure 2-4   Select default device

6. If you selected more than one device in step 5, you must decide which will be the default one. Click **Next**.

7. Click **Next** to start the installation.

8. When you a message telling you that installation is finished, click **Finish**.
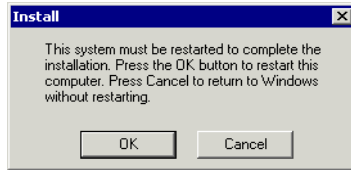
Figure 2-5   Restart the computer

9. Click **OK** to restart your computer or **Cancel** to return to Windows.

2.2 Synchronization

EasySync Pro relies on the native synchronization tool that came with your PDA to connect with your PC. This means you have to have HotSync for the Palm device, and ActiveSync for WinCE and PocketPC devices, up and running on your machine. Use this software to configure what port to use to connect your PDA.

2.2.1 Initial setup

After completing the installation and restarting your computer, you should have a new icon in your system tray in the lower right corner of your screen like this:
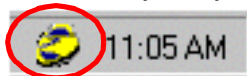
Figure 2-6   The EasySync Pro icon in System Tray

This shows that EasySync Pro is up and running.

Note: If you remove the EasySync Pro icon from the system tray, you can add it back to the system tray by selecting **Start->Programs->Lotus EasySync Pro->Enable Tray Menu**.

By default EasySync Pro is set up to get your Calender, tasks, and e-mail from your current Notes mail database and contacts from your local Notes address book. See 2.3, "Configuration" on page 28 for more information on configuration.

2.2.2 First time synchronization

Before you start synchronizing, make sure that your native synchronization tool for the handheld is runnning, that is *HotSync* or *ActiveSync* depending on the make of your handheld.

To start a synchronization, right-click the EasySync Pro icon in the System Tray and select **Synchronize NOW** (See Figure 2-7).

Figure 2-7   Start Synchronization from the EasySync Pro icon

Tip: EasySync uses the installed Notes client to access the Domino server and thereby your Notes-ID file. To avoid having to give your password every time you synchronize, you should enable the sharing of the Notes-ID with other Notes-based programs. Select **File->Tools->UserID** in the Notes client to set the option (see Figure 2-8). You will be challenged for the password if the Notes client is not running.
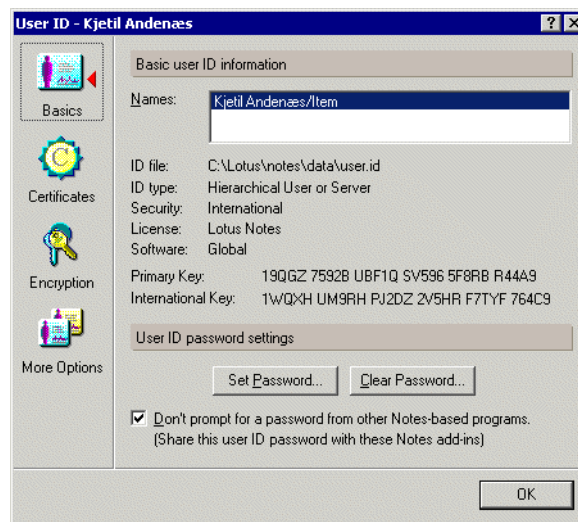
Figure 2-8   Share this user ID password with Notes add-ins

When synchronization is executed for the first time, EasySync Pro executes a *full synchronization*. With full synchronization, EasySync Pro tries to match each entry on the mobile device to each entry in the PIM. When an exact match is found, those two entries are identified as the same.

> **Note:** To make an exact match, the two entries must be identical down to the punctuation in the description fields.

When you select to synchronize for the first time you are given three options for each data source you've selected to synchronize:

- ► Replace mobile device records with PIM application records.
- ► Replace PIM application records with mobile device records.
- ► Combine both mobile device and PIM application records. (This may result in duplicate records.)

If you consider either your PIM or your mobile device to contain *all* the information you need, we recommend that you reset (or clear) all the data on the other side so that all the records are moved over.

However, if you have incomplete data on both devices, you should choose to copy data in both directions. Since full synchronization looks for exact matches, if the mobile device and the PIM both have similar yet not exact data, you may end up with two entries for the same record. For example, if you have John Smith as a Contact in your PIM and John S. Smith as a contact in your mobile device, you will have two entries in each place when synchronization completes; one for John Smith and another for John S. Smith.

You can prevent these duplicate entries if you choose to replace records from one side or the other. For example, let's assume you want Lotus Notes to take precedence over your mobile device data because Lotus Notes contains your most up-to-date records. In this case, you would simply select to replace the mobile device records. Selecting this option will delete all records from your mobile device and send all your Lotus Notes records to your mobile device, making both Lotus Notes and your mobile device "in synch."

2.3 Configuration

Most of the settings in EasySync Pro are configurable. You can select which PIM functions are to be synchronized, what Notes databases to use, and how the fields are mapped from the Notes PIM to the PDA. Figure 2-9 is a diagram showing the relationships between the different parts of EasySync Pro.
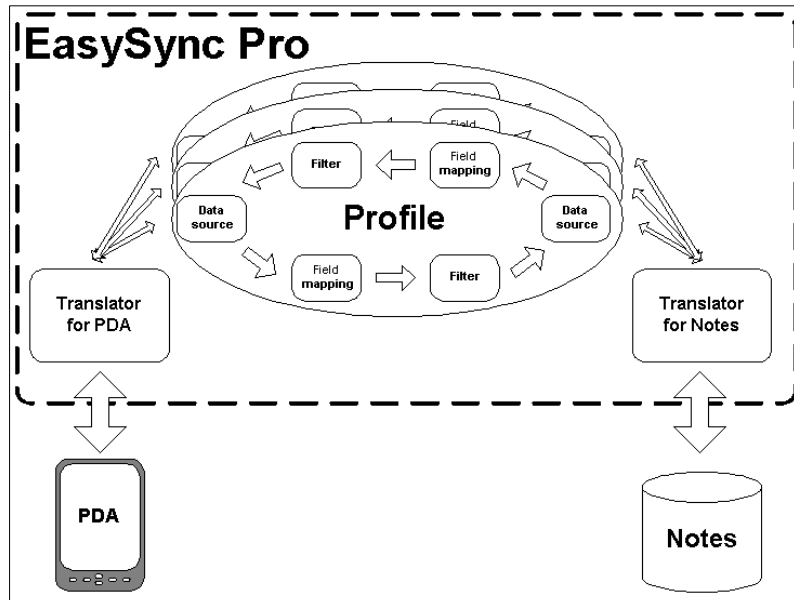
Figure 2-9   The different components of EasySync Pro

To start configuration, right-click on the EasySync Pro icon in the system tray and you get the console for EasySync Pro (see Figure 2-10).
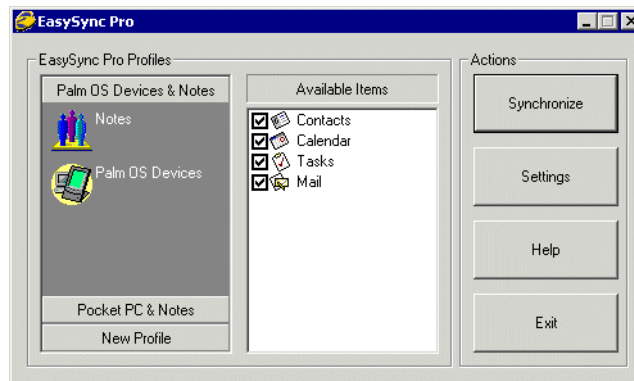
Figure 2-10   The EasySync Pro system console

Here you can start synchronization, configure synchronization, or read documentation and help information.

On the left side is a list of profiles. A *profile* holds one configuration set for synchronizing a specific PDA against Notes. You can add, rename, remove or modify a profile by right-clicking the profile pane (see Figure 2-11).
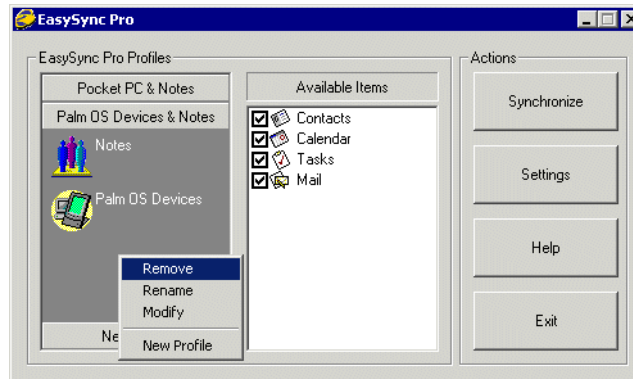
Figure 2-11   Context menu for profiles

2.3.1 Modifying a profile

To modify a profile, select **Modify** from the context menu. You get a dialog like the one in Figure 2-12 on page 30. Here you can configure settings like:

► How to handle conflicting records

► Translator settings

► Field mapping for the PIM applications

► Synchronization filters

► Data source selection
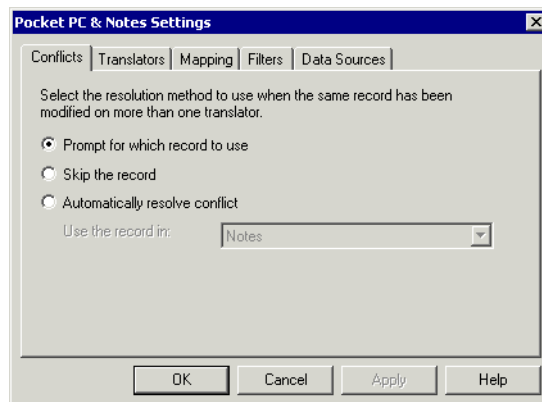
Figure 2-12   Modify dialog for a profile

Conflict handling

The first tab of the dialog, shown in Figure 2-12, concerns the configuration for handling conflicts. A conflict among records occurs when a certain record of data has been edited on both the PDA and in Notes. We can configure EasySync Pro to resolve this automatically and let either Notes or the PDA rule. We can have EasySync Pro prompt us to decide in each case or skip the record all together. The recommended setting is to let either Notes or the PDA rule. The other settings can be used in special situations, such as when there has been a long time since the PDA was synchronized and there have been many changes on both the PDA and in Notes.

For an organization with Domino deployed throughout, it is wise to let Notes rule since you would expect the Notes calendar to be up-to-date. For example, meetings might have been rescheduled or canceled while you were away.

Translators

The next tab deals with translators. Translators are like a driver that knows how to talk with the device or program. EasySync Pro comes with translators for Lotus Notes, Pocket PC devices, and Palm OS devices. Among these translators only the one for Lotus Notes can be modified (see Figure 2-13).
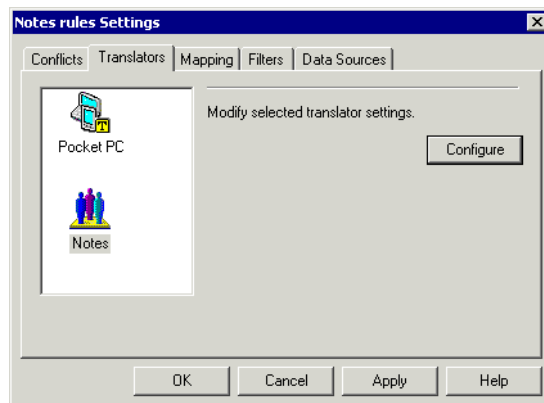
Figure 2-13   Translators in the profile

Select the icon for Notes. Use the **Configure** button to get a dialog asking which NOTES.INI file to use and the password for the active Notes ID (see Figure 2-14).
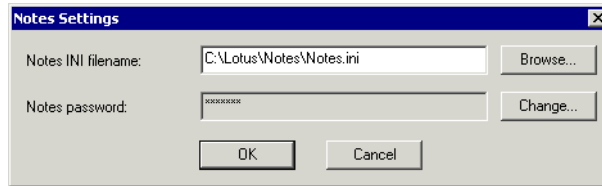
Figure 2-14   Values for the Notes translator

Unless you have more than one Notes installation on your PC, this setting should not need to be changed.

> **Important:** Changes made to the translator here are global within EasySync Pro. That is, they will be used across all profiles.

Field mapping

The tab labelled *Mapping* enables you to configure, for this profile, exactly which fields correspond between the two different sources. There is a different mapping for the different types of data: contacts, calendar, mail, and tasks (see Figure 2-15 on page 32).
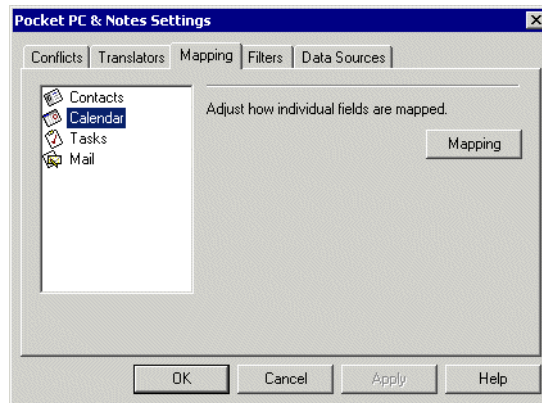
Figure 2-15   Field mapping for the profile

Select the desired data type and click the **Mapping** button to see the actual mapping of fields for that type (see Figure 2-16).
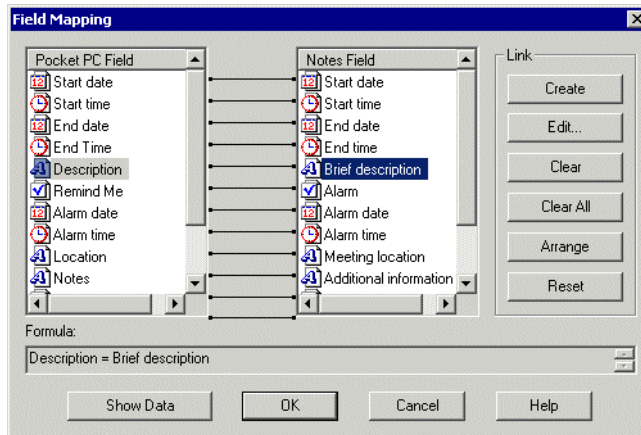
Figure 2-16   Field mapping used for calendar data in the profile

Synchronization filters

The next tab, *Filters*, makes it possible to set a filter for the synchronization. A filter can reduce the amount of data being transferred between the sources. As for mapping, filters are specified for each type of data.

Select the desired data type by clicking it in the left field; you will see the possible filter configurations for the selected type on the right-hand side. In Figure 2-17 we have configured the calendar synchronization for a certain time interval, one week in the past to four weeks in the future.
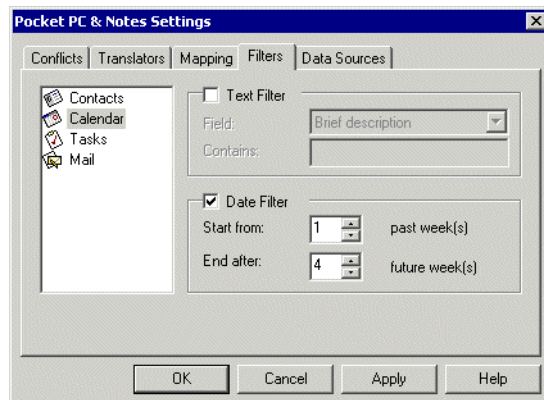
Figure 2-17   Filters for the synchronization

Calendar entries that do not fall within this interval will not be affected by synchronization.

Data sources

On the last tab we can configure the data sources. This is only configurable for the Notes side of synchronization. Here we can specify which Domino database holds the data for the different data types (see Figure 2-18).
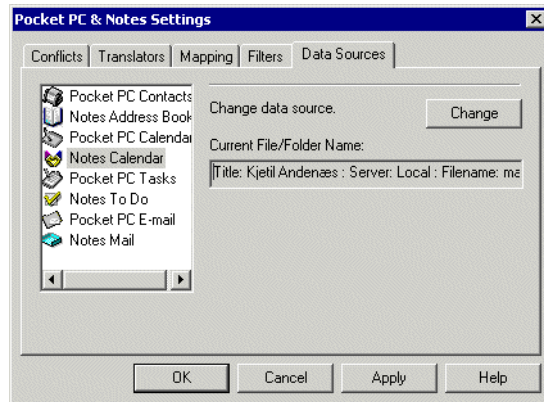
Figure 2-18   Data sources used in this profile

Here again, you select the desired type on the left-hand side. The active database for that type is shown on the right-hand side. Use the **Change** button to select a different database as the data source for this data type.

If no configuration is done, EasySync Pro configures itself to synchronize with your mail, calendar, tasks, and contacts based on the current location settings in the Notes client. This means that it will use your mail database on the Domino mail server for mail, calendar, and tasks, and the local address book for contacts. If you configure a specific source for mail, calendar, tasks, or contacts in a profile, you *lock it* and it will not be overruled when changing location in the Notes client.

2.3.2 Example: Configuring EasySync Pro for iNotes

If you are running iNotes you have the option to store your contacts right in the mail database. These contacts are then used when you access your mail from the Web. iNotes comes with its own background agents that can synchronize the contacts in your mail database with those in your local Address book.

> **Tip:** If you do want to try this without deploying the iNotes mail template, you can copy certain design elements manually into your existing mail template/database. See 3.5.2, "Personal Address book held within the user's mail file" on page 80 for details on which design elements are required.

Use the following steps to configure EasySync Pro to synchronize with the contacts in an iNotes mail database.

1. To start configuration, right-click the EasySync Pro icon in the system tray to access the console for EasySync Pro (see Figure 2-10).

2. Select the profile you want to modify, and right-click the profile.

3. Select **Modify** from the menu.

4. Select the Data Sources tab in the dialog. Your screen should look something like Figure 2-19.
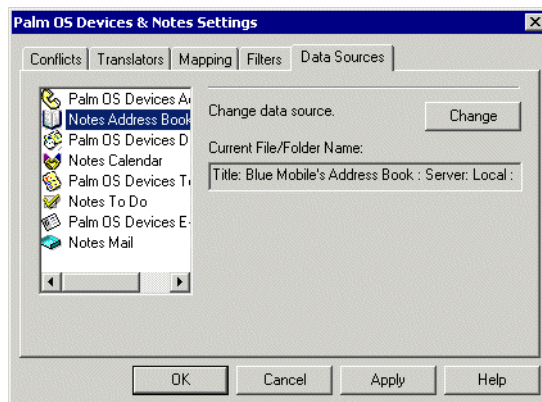
Figure 2-19   Selecting Data Source in the configuration

5. Select **Notes Address Book** in the list of source types.

6. Click the **Change** button. The dialog shown in Figure 2-20 is returned.

7. Select **Browse** to specify your mail database instead.

8. Type in the name of your Domino mail server (`Balder/RedMobile` in our example), and the path for your mail file (`mail\BMobile.nsf` in our example), as in Figure 2-21.

> **Tip:** Ask your administrator for the exact servername and path to the
> database, since real browsing only seems to work for local databases.
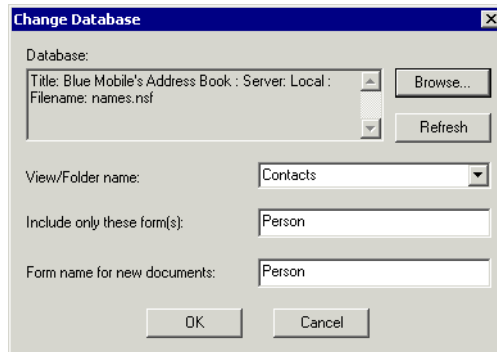
Figure 2-20   Change database for Notes Address Book
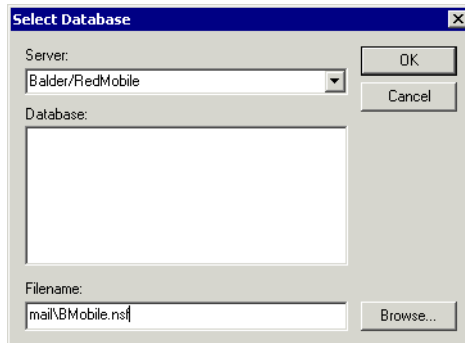
Figure 2-21   Browsing for the mail database on the server

9. Click **OK**, and you are returned to the previous dialog.

10. Select the view **($Contacts)** in the combo box labeled View/Folder name
    (see Figure 2-22 on page 37). Use the **Refresh** button to update the list of
    views in the combo-box with the one from the newly selected database, if this
    is not already updated.

11. The fields specifying the forms to use and the form name for new documents
    should read `Person`, as they probably already do (see Figure 2-22).

12. Click **OK** to close this dialog, and **OK** again to close the first dialog.

13. The change of database for contacts is now complete. From now on your
    contacts are synchronized with your mail database.
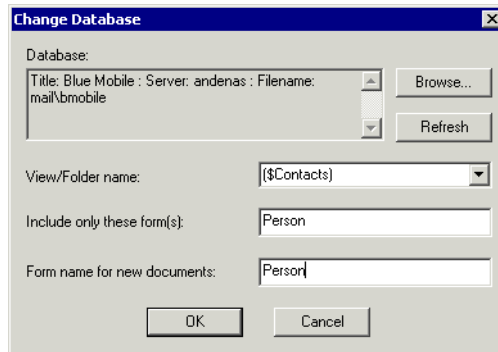
Figure 2-22   Configure which forms and views to use

2.4 Summary

EasySync Pro makes it easy to synchronize your existing PIM and mail from Lotus Notes to a PDA running Palm OS, Win CE or Pocket PC. EasySync Pro configures itself to synchronize with your mail, calendar, tasks, and contacts based on the current location settings in the Notes client.

You can configure down to the field level how the synchronization is to be done, and you can apply filters to reduce the extent of synchronization. EasySync Pro is configured per client.

IBM Mobile Connect

This chapter provides an overview of the features of IBM Mobile Connect, and describes how to install and configure it.

IBM Mobile Connect enables users of Palm OS, Windows CE, and EPOC devices to integrate with Enterprise Solutions.

IBM Mobile Connect provides remote and local access to Lotus Domino and Microsoft Exchange for server-based synchronization of e-mail, calendar, contacts, and tasks. It also provides 2-way relational database synchronization, 2-way file transfer, and remote installation of applications.

3.1 The wireless office

Prior to the installation of IBM Mobile Connect, users generally used their PDA to hold personal data. In addition, users may have used their PDA when on the road, then synchronized the data with their workstation each time they returned to the office.

With IBM Mobile Connect the role of the PDA changes completely. Mobile workers may have no use for a workstation any more, since the PDA can be the only computing device they need.

Mobile users only have to connect to the corporate network—either through a dial-up connection, docking cradle, or wireless LAN—to let IBM Mobile Connect synchronize their PDA directly with the corporate servers holding all the enterprise data.
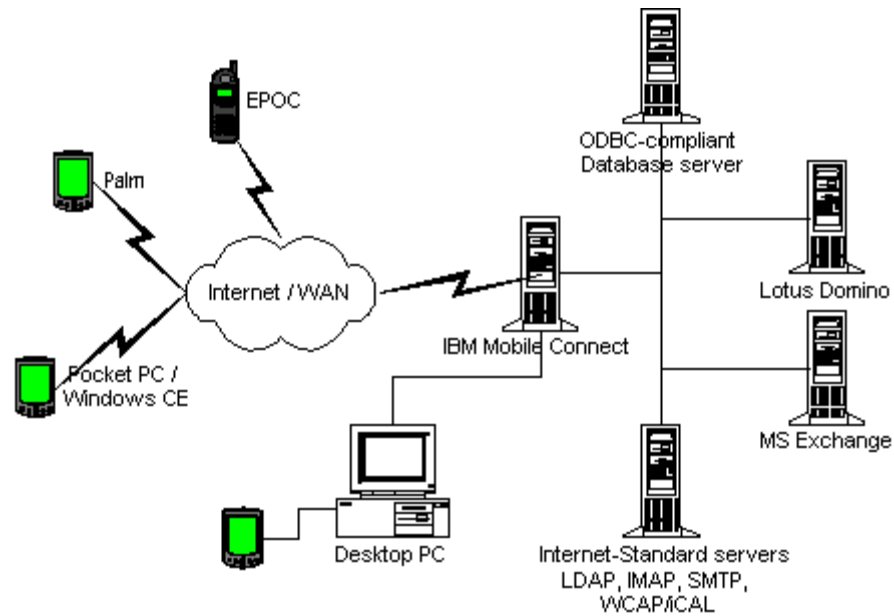
Figure 3-1   IBM Mobile Connect and the wireless office

3.2 Overview of IBM Mobile Connect

The section presents an overview of the key features and the main components of IBM Mobile Connect.

3.2.1 Key features

Among the features of IBM Mobile Connect are the following:

► Support for Palm OS, Windows CE and EPOC.

► Allow mobile users to synchronize data with Lotus Domino, Microsoft Exchange, or with any ODBC-compliant enterprise database, such as DB2, MS SQL Server, Oracle, and Sybase.

► Support for Internet-standard servers, including:

– LDAP
– IMAP
– WCAP/iCAL
– SMTP

► Synchronization over any networking infrastructure that supports IP, such as modem, cellular phone, Internet, local and wide area networks.

► Easy to understand interface and wizards.

► Authentication using Lotus Domino and Microsoft Exchange to reduce administration and set-up time. Users can also be authenticated against a user list held by IBM Mobile Connect.

► Automatic backup and restore of data held on the PDA, remote installation and updating of applications, detailed reporting of each PDA; all of which make managing the PDA easier.

► Encrypted communications to assure secure transfer of corporate data.

► Remote monitoring with Microsoft's Management Console enables support staff to monitor and diagnose the PDA.

► VBScript for customization.

3.2.2 The software components

This section describes the main software components in IBM Mobile Connect.

IBM Mobile Connect service

The IBM Mobile Connect service runs on a Windows NT Server or Windows 2000. It manages security and performs the data transfer between the PDA and the enterprise systems when a user performs a synchronization.

IBM Mobile Connect client

This program runs on the PDA, enabling the user to synchronize by pressing the "Connect" button on their device. The PDA establishes an IP connection with the server and the server then performs the synchronization.

IBM Mobile Connect Administration

This program is used when setting up and administrating IBM Mobile Connect. Most of the synchronization setup is wizard-driven and the information is stored in a configuration file. The configuration file tells the IBM Mobile Connect service what is required in order to perform a synchronization for each PDA.

IBM Mobile Connect Monitor

The Connect Monitor is a snap-in for the Microsoft Management Console. It provides the administrator with a tool to remotely monitor one or more IBM Mobile Connect servers. With the Connect monitor the administrator gets detailed live information about synchronization sessions and also error history.

IBM Mobile Connect Proxy

The Connect Proxy provides the communication link between a PDA and the IBM Mobile Connect server. The Connect Proxy allows a user to perform a synchronization with the PDA docked. The IBM Mobile Connect Client then synchronizes with the server through the networked PC.

3.2.3 Wizards

With the guidance of wizards, the IBM Mobile Connect server can be set up and running almost immediately. The wizards make it easy to set up PIM synchronization, installation of applications, and replication of other enterprise data.

Site Wizard

The Site Wizard is used for basic setup, including specifying the following items:

► User authentication. This can be accomplished either through existing details held in Lotus Domino or Microsoft Exchange, or a list of users held in IBM Mobile Connect.

► Which PIM applications on the PDA are to be synchronized with Lotus Domino or MS Exchange.

► Details of the applications that are to be installed automatically on the PDA.

► Backup and restore of the applications on the PDA.

PIM Wizard

The PIM Wizard is used to set up the synchronization of the build-in PIM applications on the PDA with Lotus Domino and Microsoft Exchange.

The PIM Wizard can only be used to add new PIM synchronization to an existing configuration.

Replication Wizard

The Replication Wizard is used when setting up synchronization between any ODBC-compliant enterprise data source and wireless applications that are using the IBM DB2 Everyplace database or the Microsoft ActiveX Data Objects (only used on Windows CE).

Like the PIM Wizard, the Replication Wizard can only be used to add new enterprise synchronization to an existing configuration file.

3.3 Installation

This section describes the installation of IBM Mobile Connect with user authentication against the server-based Lotus Domino address book and strong encryption enabled.

Before installing the IBM Mobile Connect server, make sure that your system satisfies the server-based and the pre-installation requirements identified in the next two sections.

3.3.1 Server-based requirements

The minimum requirements to install and run the IBM Mobile Connect server are as follows.

Server

The recommended minimum specification for using the IBM Mobile Connect server is a 350 MHz Pentium III-based server with a minimum of 128 MB RAM and a 9 GB hard drive. Each user requires 4 MB of hard drive space.

Communications adaptor for accessing an IP network is required.

Platform

IBM Mobile Connect currently requires Windows NT Server 4.0 with Service Pack 4 or later, or Windows 2000.

Lotus Domino

The Domino Server 4.5, 4.6, or R5 and later. Lotus Notes Client 4.5, 4.6, or R5 and later must be installed on the IBM Mobile Connect server.

Enterprise databases (optional)

Any ODBC-compliant database data source configuration, such as:

► DB2
► MS SQL Server
► Oracle
► Sybase

3.3.2 Pre-installation requirements

Before installing the IBM Mobile Connect server, make sure that you have your system set up according to the following considerations, and the required information in hand, specifically:

► The IP address of the server.

► The port address TCP/IP will use when communicating with the server. The default is port 5001, which can be changed to meet your requirements.

> **Note:** If you allow access to the IBM Mobile Connect server from the Internet, both the IP address and the port number will have to be configured on your firewall/router to allow access.

► The IBM Mobile Connect service default uses the System account.

 – The "Allow Service to Interact with Desktop" option will not be selected for a server. This option determines wether the service or applications called from within the service will be allowed to interact with the desktop or not. Due to this you should avoid any VBScript processing from interaction with user-interface elements.

 – The recommended option for a server is to use a dedicated account for the service. The service will then have the same security rights as the Windows user account specified in "This Account", such as the right to access network resources. The "Allow Service to Interact with Desktop" option will not be available for this account.

> **Note:** Refer to the Windows documentation for more information on services.

► Connections documents may be needed, which instruct the Lotus Notes client on the IBM Mobile Connect server how to connect to Domino servers.

- ► Cross-certificates may be needed on the IBM Mobile Connect server to allow authentication with Domino servers.
- ► To allow the Lotus Notes Authentication plug-in to access the Domino databases, you should prepare an IBM Mobile Connect administrator and grant this user access to the Domino address book and/or mail files.
- ► Each user must have their Internet password defined, since this is used for authentication.
- ► You need to be logged on to the system with Administrator rights to complete the installation successfully.

3.3.3 Installation options

This section describes the actual installation of IBM Mobile Connect. If the Lotus Notes client is installed *after* IBM Mobile Connect, you have to ensure that the Notes directory is added to the System Path.

> **Tip:** To ensure correct communication with the Domino server, you should connect the Lotus Notes client to the Domino server and open a mail database. This verifies that the Lotus Notes client and IBM Mobile Connect can communicate without any problems. Connection details for the home server will also be generated in the process.

To install IBM Mobile Connect, insert the CD in the CD drive and the IBM Mobile Connect installation will begin automatically. If not, run `<CD-DRIVE>\SETUP.EXE` to start the installation manually. The result is the setup screen shown in Figure 3-2 on page 46.

Figure 3-2   IBM Mobile Connect Server setup screen

From the IBM Mobile Connect server setup screen you can choose to install the various components of Mobile Connect, as well as review online documentation. The following choices are available from this screen:

► Install IBM Mobile Connect

This selection installs the IBM Mobile Connect server and initiates the Site Wizard, which sets up user authentication and automatic synchronization of the PDA build-in PIM applications with Lotus Domino; and enables automatic backup of the applications on the PDA and automatic installation and update of the wireless applications.

► Install Connect Monitor (MMC)

The Connect Monitor is a snap-in for the Microsoft Management Console (MMC) that allows administrators to monitor one or more IBM Mobile Connect monitors remotely.

► Browse Documentation Directory

The following files are available in Acrobat Reader format:

– End user's guide for Palm
– End user's guide for CE
– End user's guide for EPOC
– Getting Started Guide
– IBM Mobile Connect Manual (Palm)
– IBM Mobile Connect Manual (CE)

► Install Connect Proxy

The workstation-based Connect Proxy enables the users to synchronize their docked PDAs (usually using a cradle). Using the Connect Proxy eliminates the need set up Windows RAS on each user's workstation.

► Install Clients

The programs to be installed on the PDA. Once set up, the user can synchronize the PDA by pressing the client's Connect button.

3.3.4 IBM Mobile Connect server installation

This section provides step-by-step instructions for installing the IBM Mobile Connect server and discusses some of the issues in the installation process.

1. **Choose Install IBM Mobile Connect**

   Choose Install IBM Mobile Connect from the setup screen and accept the Software License Agreement.

2. **Choose Installation Location**

   The default location is %ProgramFiles%\IBM\IBM Mobile Connect.
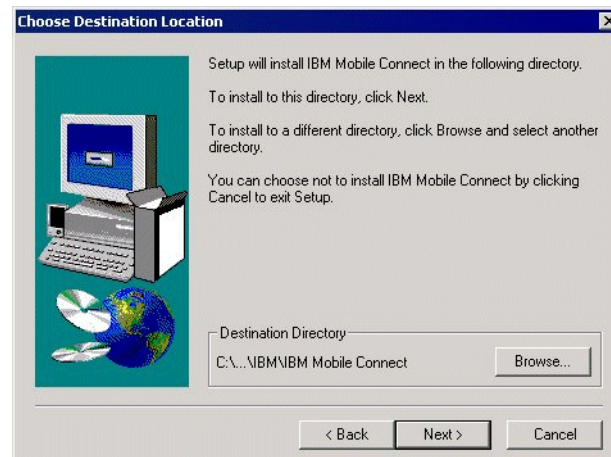
Figure 3-3   Choose Destination Location

The installation will create a directory (default ..\Clients) together with the program files containing the Connect clients for the PDA.

The destination location can be changed to meet your requirements by clicking **Browse...**, or you can accept the default destination location by clicking **Next>** to proceed.

3. **Select Program Folder**

The installation will add program icons to the Program Folder *IBM Mobile Connect* by default. You can type a new folder name or choose an existing folder from the folder list. Click **Next** to proceed with the installation and let the installation copy the program files to the destination location.
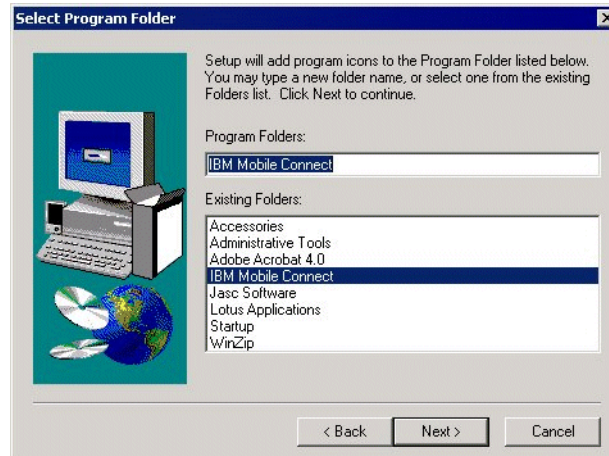
Figure 3-4   Select Program Folder

4. **Select Authentication source**

   The next steps are actually the same steps as if you were to select the Site Wizard for the IBM Mobile Connect Administration program.

   a. Select the source that holds the user list you want to authenticate against.
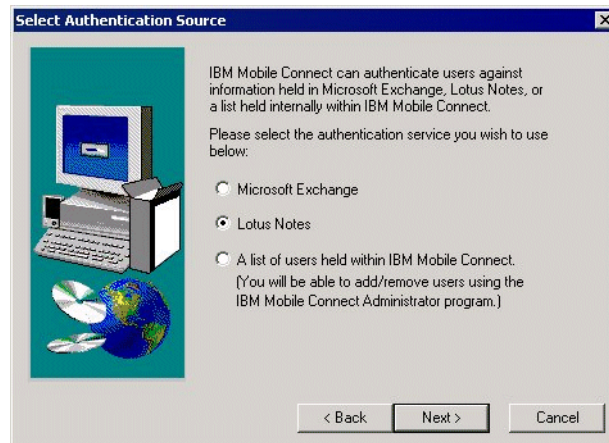
Figure 3-5   Select Authentication Source

If you select authentication against a list held in IBM Mobile Connect you will still be able to synchronize with Lotus Domino. Click **Next** to proceed with the installation.

5. **Site Wizard - Users and authentication**

The contents of this form will be different if you have chosen authentication against Microsoft Exchange.

Figure 3-6   Users and authentication - 1

a. Notes server

The name of the Domino server containing the Public Address Book (in this example, `Balder/RedMobile`).

> **Note:** If your users are on different Domino servers, you have to create additional authentication settings since this Domino server will be the default for the configuration settings.

b. User ID and password

The authentication process checks the username and password entered by the user on the IBM Mobile Connect client against their username and password held in the Domino Public Address Book. To be able to do this, IBM Mobile Connect needs a Notes ID to enable it to access the Domino Public Address Book. The Notes ID has to have read access to the Domino Public Address Book.

You have to enter path and name of the ID in the User ID edit box and the password for it in the Password edit box. You can also select the Notes ID file by clicking the **Browse** button.

Click **Next>** to proceed.

> **Tip:** You should create a dedicated account for IBM Mobile Connect to make the administration as simple as possible, and use this account to manage the synchronization and validation of users. For instance, you could create the account Mobile Admin and store the ID file in the folder you entered as the IBM Mobile Connect installation location. The User ID should then be entered as MobileAdmin.id.
>
> If you use this approach you might be violating internal security guidelines, because this will enable the above mentioned user to read and delete documents in the individual mail files!

You can either use every users Notes ID file for the authentication and synchronization or you can use the dedicated Mobile Admin user.

6. **Users and Authentication, additional detail**

   Dedicated Domino user

   To authenticate the users, the password entered in the IBM Mobile Connect client on the PDA will be checked against their HTTP password in the Domino Public Address book.

   > **Important:** It is important that all users who are going to access Domino have their "HTTPPassword" defined.
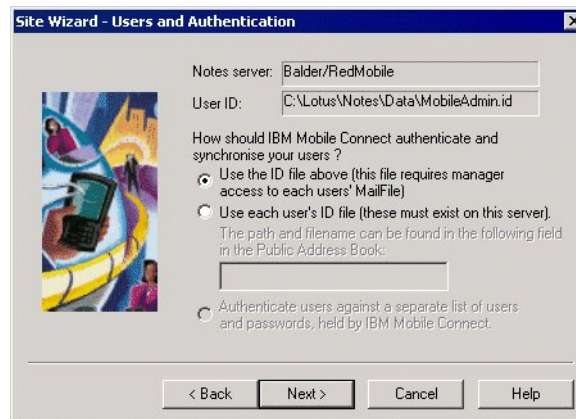
Figure 3-7   Users and authentication - 2

   Users own ID file

   If you choose to have each user provide their ID file you have to:

a. Select **Use each user's ID file (these must exist on this server)**.

b. Have each user store their ID files on the IBM Mobile Connect server.

c. Choose an unused field in the Domino Public Address book and have the users enter the path and the Notes ID file into this field.

d. Type the field name into the edit box under the selection **Use each user's ID file (these must exist on this server)**.

To minimize the administration process you should use the dedicated Domino user, in this example `Mobile Admin`. IBM Mobile Connect will use this same ID file, no matter which user it is accessing the Domino database on behalf of.

> **Restriction:** If you select **Use this ID file above (this file requires manager access to each users MailFile** for the synchronization the users should not encrypt their mail file locally

Dedicated ID file

To enable IBM Mobile Connect to use a dedicated ID file for the authentication and synchronization, you have to:

a. Select **Use this ID file above (this file requires manager access to each users' MailFile.**

b. Have each user grant permission for Mobile Admin (in this example) to their mail file and Personal Address book replica, if any, with the following permissions:

   i. User Type: "Unspecified" or "Person"

   ii. Access: "Manager"

   iii. Delete Documents: Checked

c. Click **Next** to proceed.

> **Attention:** When using this option, IBM Mobile Connect has to run on a Domino server that is part of a Domino domain.

If you want to allow some users to authenticate with their own ID files and some without, you can do that. However, the Site Wizard can only configure your system with one of the above mentioned methods. You have to create additional authentication settings using the IBM Mobile Connect Admin program.

7. **Standard groupware synchronization**

You can select which of the built-in groupware applications on the PDA you would like default synchronization set up for. All the items are selected by default, but you can deselect any that you do not want to do synchronization for.

Note: You can add or remove any of these groupware synchronization settings by adding or removing Action Sets in the IBM Mobile Connect Admin program.
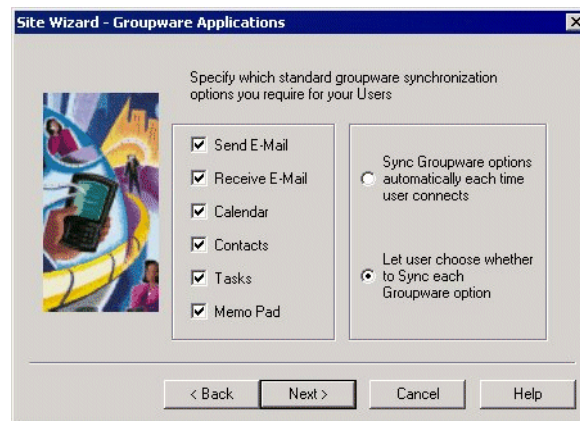
Figure 3-8   Standard groupware synchronization

8. **When to synchronize the groupware applications**

   There are two choices for when to synchronize groupware applications. Choose one based on your users' needs.

   – **Sync Groupware options automatically each time users connects**.

     Select this if you want the users to synchronize all the groupware applications every time they connect to the IBM Mobile Connect server. This option can be a very time consuming task for the users and they have to be connected to the network all the time. Every time they connect, *all* the groupware applications will be synchronized even if they only are interested in their e-mail.

   – **Let users choose whether to Sync each Groupware option**

     This selection avoids the potential problem of time-consuming and unnecessary synchronizations. With this choice the users are given the option of choosing which groupware applications they want to synchronize.

   Click **Next** to proceed.

9. **Address book database location**

   The nature of Lotus Notes is that the Personal Address book is stored on the user's workstation and not on the Domino server. However, IBM Mobile Connect can not synchronize with databases held on a user's workstation; it can only synchronize with databases held on a Domino server.

   If you want to use any of the default options for synchronization you have to allow the users to store their Personal Address books on the Domino server, so each user will have to replicate their Personal Address book onto a Domino server.

   By clicking the edit box beneath "Address Book Database" you can select/type in which name and folder are being used for the replica of the users' Personal Address books. Complete the sentence "The Address Book database" with one of the possible choices from the drop-down list.
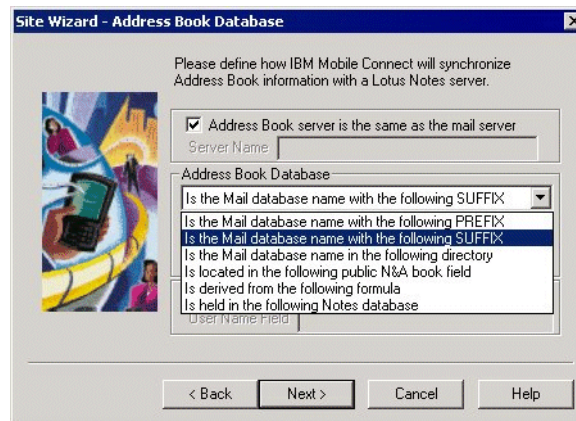
Figure 3-9   Name and folder for the Personal Address book replica

   – Is the Mail database name with the following PREFIX

     With this setup, the replica must be stored in the same file folder as the user's mail database. The replica is given the same filename as the user's mail database, with an added prefix. Select a suitable prefix and type it into the edit box. For example, if you have chosen "pab_" as the prefix and the users mail database has the filename "muser.nsf", then the replica of the Personal Address book must be have the filename "pab_muser.nsf".

   – Is the Mail database name with the following SUFFIX

With this setup, the replica must be stored in the same file folder as the user's mail database. The replica is given the same filename as the user's mail database, with an added suffix. Select a suitable suffix and type it into the edit box. For example, you have chosen "_pab" as the suffix and the user's mail database has the filename "muser.nsf", then the replica of the Personal Address book must have the filename "muser_pab.nsf".

– Is the Mail database name in the following directory

With this setup, the replica must have the same filename as the user's mail database, but the replica must be stored in a different file folder. You must select a file folder within the Domino server's data file folder or create a new file folder here and type the name of that file folder into the edit box. For example, if you have selected a file folder named "Address" and the user's mail database has the filename "muser.nsf", then the replica of the Personal Address book must have the filename "muser.nsf" and be stored it in the file folder "Address" within the Domino servers data file folder.

– Is located in the following Public N&A book field

With this setup, you must specify a field within the user's Person document in the Public Address book which defines the location and name of the user's Personal Address book replica.

– Is derived from the following formula

With this setup, you must enter a LotusScript formula, that defines the location and name of the user's Personal Address book replica. For example, you could do the "Is the Mail database name with the following SUFFIX" by entering the LotusScript formula

`MailFile + "_pab"`

– Is held in the following Notes database

With this setup, you must enter the location and the name of the Domino database that holds the user's Personal Address book info information. This option should only be used when the users will be sharing an address book.

If you want IBM Mobile Connect to share one address book among all the IBM Mobile Connect users, you should select the check box:

– Share Address Book database between many users

In order to use this setup, you must select "Is held in the following Notes database" mentioned previously. Type the name of the field in the address book database that will hold the user's full Domino name. IBM Mobile Connect will then create a filter on the address book which uses this field to differentiate between the address books of each user. The users will still be allowed to maintain their own list of addresses.

Click **Next** to proceed.

> **Tip:** Another way of synchronizing the user's Personal Address book is to include the address book entries in the mail file or to let the IBM Mobile Connect client on the PDA perform a HotSync after the server synchronization. See 3.5, "Alternative Personal Address book synchronization" on page 74 for further information.

10. **Devices to support**

    The next step is to select which devices you want your default configuration to support.

Figure 3-10   Type of PDA to support

Click **Next>** to proceed.

11. **Backup/restore and application install/update**

    The selections that you make here concerning backup/restore and installation can be changed later by using the IBM Mobile Connect Admin program.
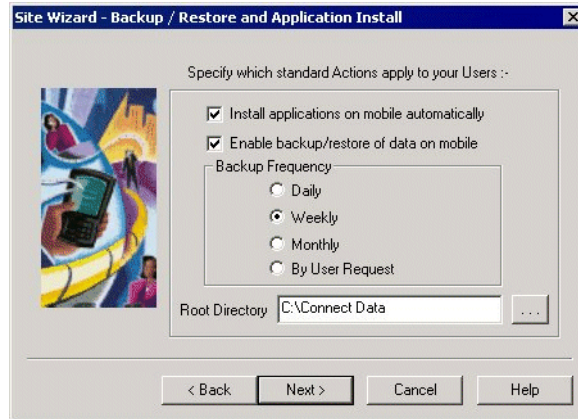
Figure 3-11 Backup/restore and application install

The selections you can make on in this dialog box have the following meanings:

– Install applications on mobile automatically

   IBM Mobile Connect will create an Action to handle the installation of new applications on the PDA and update the ones already installed. Every time the user connects to the IBM Mobile Connect server, it will look for new wireless applications to install in the defined directories (list follows). If IBM Mobile Connect discovers that an application has a later date than the one installed on the PDA, the application will be copied to the PDA.

– Enable backup/restore of data on mobile

   IBM Mobile Connect will create an Action Set to handle the backup and restore of applications on the PDA. Furthermore, you have to decide how frequently, if at all, you will perform the task by selecting the radio button corresponding to your preferred frequency.

– Root directory

   The Root Directory edit box shows the default directory (C:\Connect Data) which will be created upon completion of the installation. The root directory will show a folder for each PDA you specified to support earlier in the installation process. Within each of these, IBM Mobile Connect will create the following directories:

   • Backup

      A directory containing all the wireless applications, with the user's IBM Mobile Connect client username, will be created when they perform their first backup.

- Install

  Place any application in this directory which you wish to install or update on the user's PDA.

  > **Tip:** You can control the installation of new applications by creating subdirectories. For example, you can create a subdirectory called Sales and copy the special sales applications into this directory. Create an Install Action Set with the IBM Mobile Connect Admin program and make this Action Set available only to users held in the Sales group from the Domino Public Address book.

- Mirror

  On the first synchronization a user performs, a mirror directory will be created with that user's IBM Mobile Connect client username. IBM Mobile Connect uses the mirror files to keep track of the state of the wireless databases. Each mirror file is actually a copy of the user's wireless database and is used in the synchronization process.

  Click **Next** to proceed.

12. **Configuration file location**

    The edit boxes show the default location and name of the configuration file for each of the handhelds you will be supporting.

    You can change the location and the file names for the configuration files later by using the IBM Mobile Connect Admin program.
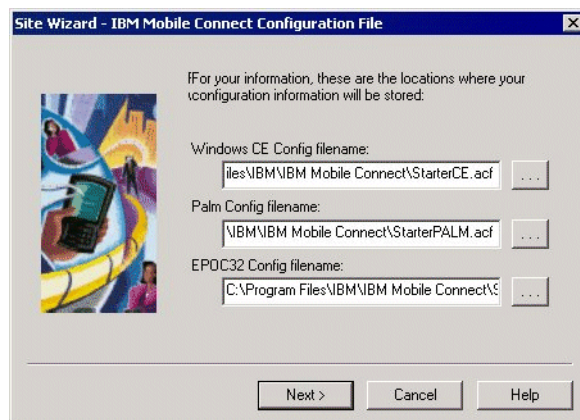
Figure 3-12   Location and name of the configuration files

Click **Next** to proceed.

13. **Encryption setup**

   IBM Mobile Connect is capable of using encrypted communication between the IBM Mobile Connect client and the IBM Mobile Connect server. IBM Mobile Connect comes in three different versions, depending on the level of encryption the service can use:

   – None

   – Limited strength (56 bit encryption)

   – Full strength (128 bit encryption)

   Attention: All the components, IBM Mobile Connect service, client and Admin program, must be the same version. The only way to mix different levels of encryption is to install additional servers running with the appropriate encryption level.

Figure 3-13   Encryption setup - 1

   – IBM Mobile Connect Server

   The IBM Mobile Connect Server name can be anything you choose. The name you type into the edit box will be the name the users have to enter the first time they connect to the IBM Mobile Connect server.

   – Password

   The public key IBM Mobile Connect uses with the selected level of encryption must be protected with a password. Enter the password twice in the edit boxes.

> **Attention:** Make a note of this password. You will need it to display the
> Security Settings form in the IBM Mobile Connect Admin program.

Click **Next** to proceed.

Figure 3-14   Encryption setup - 2

The installation has now generated the public key. The public key has to be
entered on the PDA the first time each user connects to the IBM Mobile
Connect server.

Figure 3-15   The End!

14. Click **Finish** to end the installation.

If you selected **Run the Administration program** the IBM Mobile Connect Administration program will now be loaded.

3.3.5 Testing the Lotus Domino authentication

After finishing IBM Mobile Connect server installation, you can use the Notes Authentication Settings form to test whether the server can connect to Lotus Domino the way you intended. From the Test tab on the Notes Authentication form you can check that the Lotus Notes client on the IBM Mobile Connect server configured correctly. You can also check that the information returned by the authentication is correct. Use the following steps to verify your configuration.

1. Select **Start->Programs->IBM Mobile Connect->IBM Mobile Connect Administration**

2. Select the configuration file you would like to work with, in this example **StarterPalm.acf**, from the Start Option window.

3. Click **OK** to proceed.

4. Right-click **Connect Configuration** and select **Properties**.
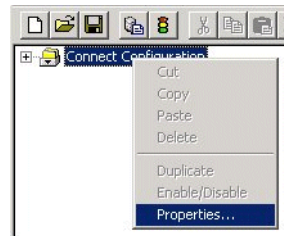
Figure 3-16   Selecting the Connect configuration properties

5. Select the **Authentication** tab on the System Settings form.

6. Select **[Lotus Notes] Authentication Service** and click **Modify**.
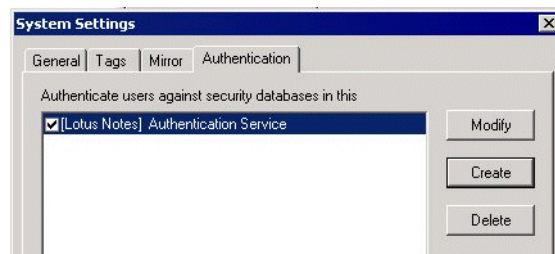
Figure 3-17   System Settings Authentication tab

7. Click the **Test** tab on the Notes Authentication Form.

8. Type in `User Name` and `Password` in the edit boxes.

9. Click **Authenticate** to run the test.
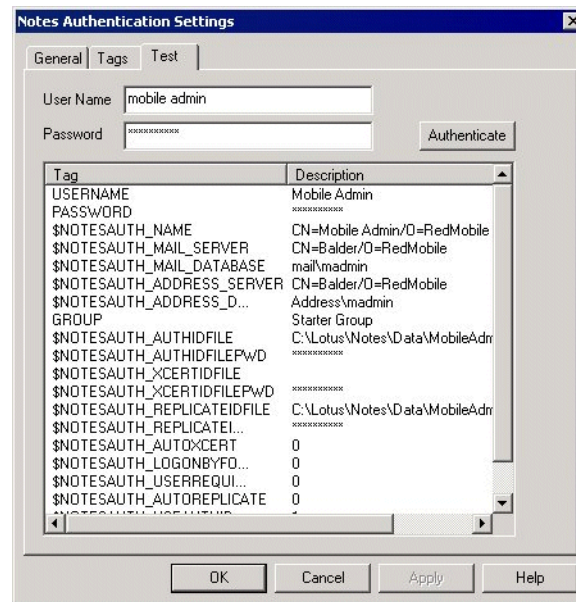
Figure 3-18   Testing Lotus Notes authentication

If IBM Mobile Connect succeeds in authenticating against Lotus Domino, it displays some of the values returned by the tags.

If the authentication fails, check the General tab for the ID File which the Lotus Notes Authentication Plugin uses. You should also check the $NOTESAUTH_NAME and PASSWORD tags, to see that they point to the correct Domino server.

Try connecting the Lotus Notes client on the IBM Mobile Connect server to the server mentioned in the $NOTESAUTH_NAME using the ID File from the General tab.

3.3.6 Security considerations

Since users take their PDAs when they leave the office, you might want to change some of the authentication settings to meet your security policies. You can control whether the users have to type in their password on every connect or store it with the IBM Mobile Connect client. You can also control whether they can change their Lotus Domino internet password through the IBM Mobile Connect client and whether you will allow the use of blank passwords.

> **Note:** If you have created additional Notes authentication settings you have to change the settings on each of the settings forms.

Use the following steps to display the general Lotus Notes authentication settings.

1. Select **Start->Programs->IBM Mobile Connect->IBM Mobile Connect Administration**.

2. Select the configuration file you would like to work with, in this example **StarterPalm.acf**, from the Start Option window.

3. Click **OK** to proceed.

4. Right-click **Connect Configuration** and select **Properties**.
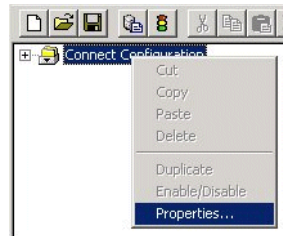
Figure 3-19   Selecting the Connect configuration properties

5. Select the **Authentication** tab on the System Settings form.

6. Select **[Lotus Notes] Authentication Service** and click **Modify**.
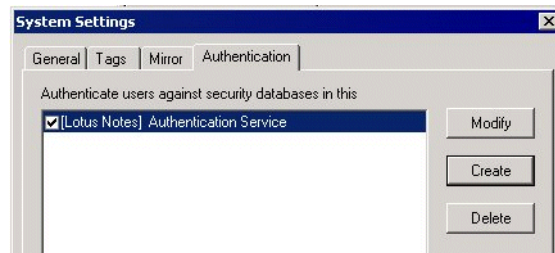
Figure 3-20   System Settings Authentication tab

7. Click the **General** tab on the Notes Authentication Settings form, if it is not already selected.
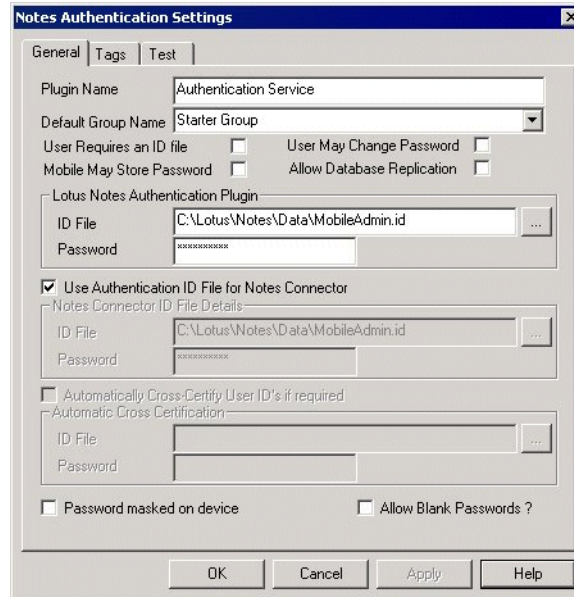
Figure 3-21   Notes Authentication Settings - General tab

8. To allow the users to store their passwords in the IBM Mobile Connect client on their PDAs, do the following:

   a. Select **Mobile May Store Password**.

   b. Click **OK** to save and close the form if you do not wish to make any more changes.

   The next time each user connects to the IBM Mobile Connect server a new check box will be displayed on the IBM Mobile Connect client. This gives the user the option to store their password on the client, so they will not be prompted for the password on every connect.

► To save the password on the IBM Mobile Connect client the *users* have to:

   a. Tap **Connect** to start a new synchronization. This performs a normal synchronization and transfers the new setup to the client.

   b. Tap **Connect** or the **Menu** icon and select **Identify** or type **/i** to display the Identify form.

   c. Type in the `User name` and `Password.`

   d. Select **Remember password** to store the password in the IBM Mobile Connect client.

Figure 3-22   Storing password in IBM Mobile Connect client

Attention: This actually stores the user's Domino HTTPPassword on the PDA! If you allow the users to store their passwords, you certainly want to mask the passwords.

9. To ensure that the password is masked, in the IBM Mobile Connect client on the PDA, do the following:

    a. Select **Password masked on device** at the bottom of the form.

    b. Click **OK** to save and close the form if you do not wish to make any more changes.

10. To allow the users to change their Lotus Domino HTTP passwords through the IBM Mobile Connect client on their PDAs, select **User May Change Password**.

Important: If you allow the users to change their passwords you should *not* select **Allow Blank Passwords?** at the bottom of the form. This could seriously compromise security since it enables the users to delete their Lotus Domino HTTPPasswords!

11. The next time each user connects to the IBM Mobile Connect server a new **Change Password** button will be displayed on the IBM Mobile Connect client. To change the password from within the IBM Mobile Connect client the user has to:

    a. Tap **Connect** to start a new synchronization. This performs a normal synchronization and transfer the new setup with the button to the client.

b. Tap the **Menu icon** and select **Identify** or type **/i** to display the Identify form.

c. Tap **Change Password** to display the Change Password form.

d. Type in the **New Password** and **New Password Again**.

e. Tap **OK** to save the new password.

f. Tap **Connect** to start a new synchronization. This will change the HTTPPassword in the user's Lotus Domino person document.

Figure 3-23   Changing password in the IBM Mobile Connect client

3.4 IBM Mobile Connect client installation and setup

To connect to the IBM Mobile Connect server and synchronize data, the IBM Mobile Connect client program must be installed on the PDA.

3.4.1 Pre-installation requirements

Before installing the IBM Mobile Connect client you should have the following information:

► The IP address of the IBM Mobile Connect server with which the client is to communicate. If you have more than one IBM Mobile Connect server, you should decide which server the different clients will be using.

► The TCP/IP port address that the IBM Mobile Connect server selected in the previous step.

► The public key for the IBM Mobile Connect server selected in the previous step.

▶ To connect to the IBM Mobile Connect server over a TCP/IP network the Network and Connection settings have to be configured. To connect using the IBM Mobile Connect Proxy program no TCP/IP configuration have to be made.

> **Note:** Refer to the documentation for the PDA for more information on TCP/IP configuration.

3.4.2 IBM Mobile Connect client installation

To install IBM Mobile Connect client you should copy the client program files to an installation share and allow the users to perform the installation. The IBM Mobile Connect Program for the different handhelds can be found on the installation CD in the Clients directory.
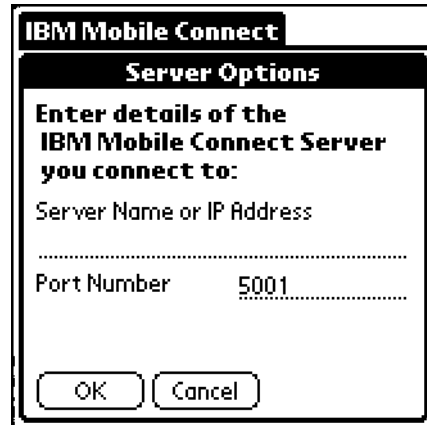
> **Important:** The IBM Mobile Connect client *must* have the same security level as the server that the client will be connecting to.

After the users have installed the IBM Mobile Connect client program on their PDAs, through the Palm Desktop HotSync Install or Microsoft ActiveSync, they have to configure the Server and Identify settings in the client.

3.4.3 Configuring the PalmOS client for the first connection

Each user has to configure the server settings and the identify settings before making the first connection to the IBM Mobile Connect server. The user can either configure the server settings and the identify settings manually, or use the "Client Configuration Wizard."

1. Tap the **Connect** icon in the IBM Mobile Connect client program.

   Since the IBM Mobile Connect client settings have not been configured previously, the program will walk the user through the configuration settings.

2. Type the IP address in the **Server Name or IP address** edit box. This should be the IBM Mobile Connect server that the you have chosen for the user.

3. Type the **Port Number** in the edit box. Port Number 5001 has already been filled in because it is the default for an IBM Mobile Connect installation.

Figure 3-24   IBM Mobile Connect client server options

4. Tap **OK** to save the information and proceed. This will automatically launch the Identify form.

5. Type the **User Name** in the edit box. The username should be entered in either of the common Lotus Notes formats.

6. Type the **Password** in the edit box. This should be the Internet Password from the Person document in the Lotus Domino Public Names and Address book if you have chosen the defaults during the installation of the IBM Mobile Connect server.

Figure 3-25   IBM Mobile Connect client Identify options

7. Tap **OK** to save the information and proceed.

The IBM Mobile Connect client now performs the connection to the IBM Mobile Connect server. Since it is the first time the client connects, the client has to be authenticated against the server security service.

Figure 3-26   IBM Mobile Connect client security settings

8. Type the **Public Key** in the edit box.

9. Tap **OK** to save the information and proceed.

10. Tap **Yes** to perform a new connection to the IBM Mobile Connect server.
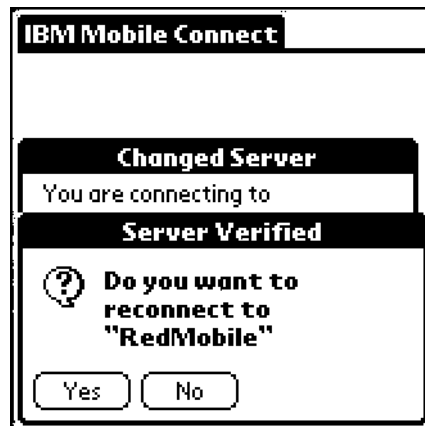
Figure 3-27   Finalizing the IBM Mobile Connect client setup

The IBM Mobile performs the first actual synchronization with the IBM Mobile Connect server. Depending on the Connect configuration, it might perform a synchronization with the build-in PIM applications on the PDA. If you selected **Let user choose whether to Sync each Groupware option** in the Site Wizard, it might just display possible synchronization which can be performed.

3.4.4 Configuring the Pocket PC client for the first connection

The users have to configure the server settings and the identify settings before making the first connection to the IBM Mobile Connect server.

The IBM Mobile Connect icon will be located in the Programs folder.
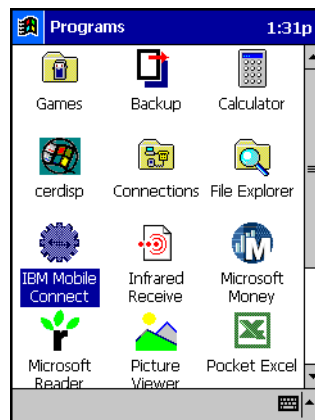
Figure 3-28   The Programs folder

1. Tap **Start->Programs** to display the Programs folder.

2. Tap the **IBM Mobile Connect** icon.

If you try to connect without entering the proper settings, you will see the error shown in Figure 3-29 on page 70.
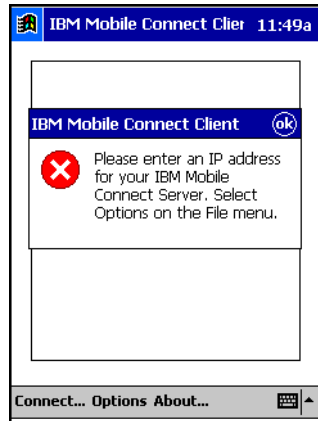
Figure 3-29   IBM Mobile Connect client error

You have to configure the server, the connection, and the user options before connecting to the IBM Mobile Connect server.
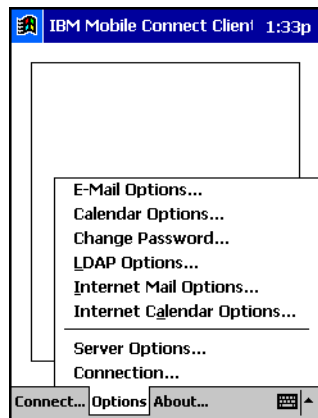
Figure 3-30   The clients option menu

3. Tap **Options** to select the menu.

   From the options menu you can configure the different options required to connect to the server.

   When connecting to the server, you can either use the server's DNS name or the IP address, depending on the IP network setup.

Figure 3-31   The server options

4. Tap **Server Options** to view the Server Options form.

5. Type the Server Name if your IP network supports name resolution from your device. If not, select **Server IP** and type in the IP address of the IBM Mobile Connect server.

6. Type the Port Number. Port Number 5001 have already been filled in because it is the default for an IBM Mobile Connect installation.

7. Select **Don't use Proxy** from the drop-down list.

8. Click **OK** to save and close the form.

Next you have to select the connection properties.
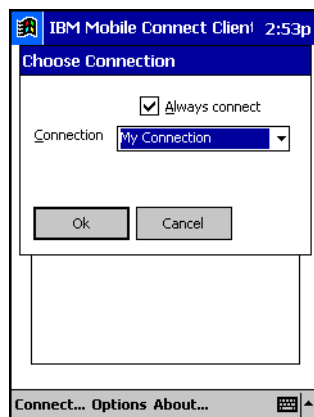
Figure 3-32   Connection properties

1. Tap **Connection** in the Options menu.

2. Tap **Always connect**.

3. Select **Connection** from the drop-down list. In this example a dial connection is selected. (See Figure 3-32 on page 71.)

4. Click **OK** to save and close the form.

> **Tip:** By choosing **Always connect** on the Connection Properties form you don't have to make any selections when you connect to IBM Mobile Connect. If your device is in a cradle, the connection will be made using the IP network on the desktop PC. If the IBM Mobile Connect client can't establish an IP connection to the IBM Mobile Connect server it will try to connect through the connection you selected as the default. (See Figure 3-32.)
>
> Refer to your Pocket PC documentation to set up a dial connection.

Now you are ready for your first synchronization, which will allow you to enter username and password.

Figure 3-33   Logon options

1. Tap **Connect** to open the Logon form.

2. Type in your Name and Password. The password should be your Domino Internet password.

3. The Remember Password check-box is grayed for now, since this is the first connection.

4. Tap **OK** to establish a connection to the IBM Mobile Connect server.

The IBM Mobile Connect client now performs the connection to the IBM Mobile Connect server. Since it is the first time the client connects, the client has to be authenticated against the server security service.
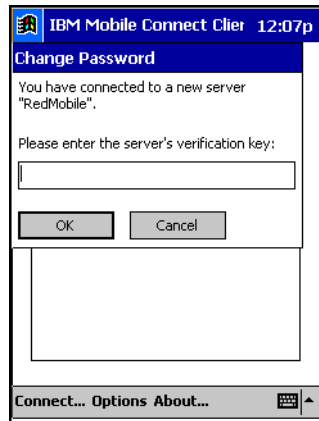
Figure 3-34   Client Security Settings

5. Type in the Public Key and tap **OK** to have your client verified by the server.

   The clients is checked against the server's security settings, and if the Public Key is correct you will see a verification message like that shown in Figure 3-35:
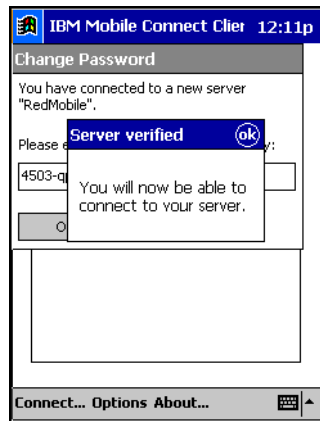
Figure 3-35   Verifying the client

You can now connect to the IBM Mobile Connect server again and perform the first PIM synchronization. If you selected **Let user choose whether to Sync each Groupware option** in the Site Wizard, the synchronization might just display the synchronization options that can be performed.
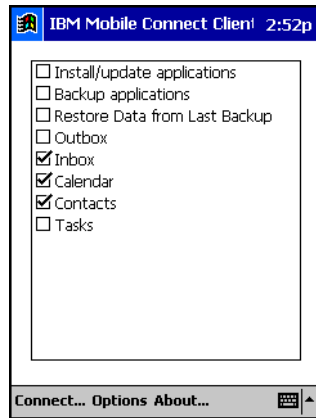
Figure 3-36   Synchronization by user request

3.5 Alternative Personal Address book synchronization

If you only use Lotus Notes from your local PC, it is great to have the Personal Address book stored locally. When you want to extend Lotus Notes to your PDA with IBM Mobile Connect this causes a problem since IBM Mobile Connect does not have access to the databases held locally on your PC.

We have already discussed the different ways you can synchronize the users' Personal Address books by replicating them to the server or by using a shared address book.

In this section we show some different approaches for handling the Personal Address book issue for a Palm device.

3.5.1 Personal Address book with HotSync and EasySync Pro

The IBM Mobile Connect client on Palm devices can be set up to automatically perform a HotSync session after it has completed an IBM Mobile Connect session. However, this feature cannot be used when the user is synchronizing their PDA away from their desktop, thus it uses the "Use Proxy" option in the IBM Mobile Connect client.

> **Restriction:** When IBM Mobile Connect is being used to synchronize with the built-in PIM application on the PDA, you must *not* use other desktop software, such as Palm Desktop or ActiveSync to synchronize against the PIM applications.
>
> The desktop software can leave the built-in PIM databases on the PDA in an unpredictable state. IBM Mobile Connect will then be unaware of the true state of the PIM databases and will be unable to synchronize correctly. This might lead to duplicate entries in the Datebook database, that is, duplicate appointments.
>
> However, you can use the desktop software to synchronize the PIM applications you are not synchronizing with IBM Mobile Connect.

Changing HotSync Manager startup

It is important that HotSync Manager is *not* running when you wish to use the IBM Mobile Connect Proxy program. To ensure that this does not happen you have to change the HotSync Manager's start options.

1. Select **Start->Programs->Palm Desktop->Hotsync Manager** and select the **HotSync Setup**.

   or

   Right-click the **HotSync Manager** icon in System Tray and select **Setup**.

Figure 3-37   HotSync Manager icon in system tray

2. Select the **General** tab, then select **Manual (you start HotSync Manager yourself)**.
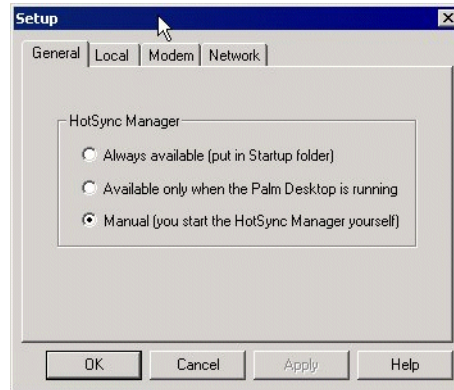
Figure 3-38   HotSync Manager startup

3. Click **OK** to save the new settings and close the HotSync Manager setup.

4. Right-click the **HotSync Manager** icon and select **Exit** to close HotSync Manager.

Changing EasySync synchronization settings

To ensure that you do *not* synchronize any of the PIM databases on the PDA with EasySync Pro that you will be synchronizing with IBM Mobile Connect, you must change the default settings for EasySync Pro.

1. Select **Start->Programs>Lotus EasySync Pro->Synchronize Notes with Palm OS devices**.

   or

   Right-click the **EasySync Pro** icon in the system tray and select **Synchronize**.

Figure 3-39   EasySync Pro icon in system tray

2. On the EasySync Pro setup screen, deselect the Notes items you wish to synchronize with IBM Mobile Connect.
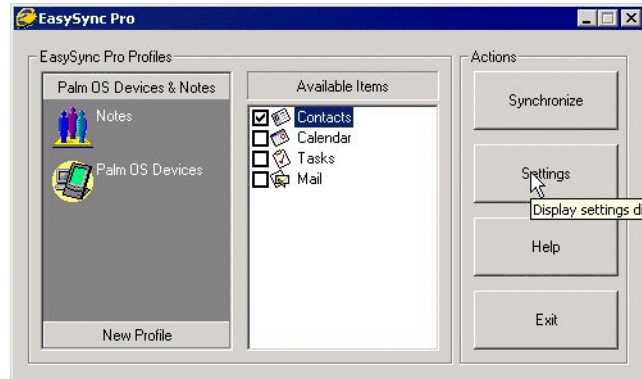
Figure 3-40   EasySync Pro setup

In this example, the only PIM database we would be synchronizing through EasySync Pro is Contacts.

3. Click **Exit** to save the new settings and exit EasySync Pro setup.

Changing IBM Mobile Connect Proxy settings

The last setup option you have to check on the desktop PC is whether the IBM Mobile Connect Proxy program is configured for HotSync.

1. Right-click the **IBM Mobile Connect Proxy** icon in the system tray and select **HotSync settings**.

   or

   Double-click the **IBM Mobile Connect Proxy** icon in the system tray and select **Options, HotSync settings** from the menu.
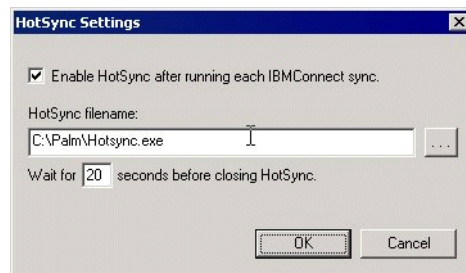
Figure 3-41   Proxy HotSync settings

2. Make sure that the edit box refers to the location and filename of your HotSync installation.

3. Click **OK** to save and exit the HotSync settings.

4. Click **Hide** to close the IBM Connect Proxy program.

IBM Mobile Connect server setup

With the IBM Mobile Connect Admin program you can change the Personal Address book synchronization for all the users, or you can allow some users to synchronize their Personal Address book from a server-based replica and some to synchronize through locally held address books.

If you want to disable server-based address book synchronization for all users, you can do that by disabling the Address action set or you can delete it from the configuration file. If you decide to disable the action set you can enable it later on.

1. Select **Start->Programs->IBM Mobile Connect->IBM Mobile Connect Administration**.

2. Select the configuration file you would like to work with, in this example **StarterPalm.acf**, from the Start Option window.

3. Click **OK** to proceed.
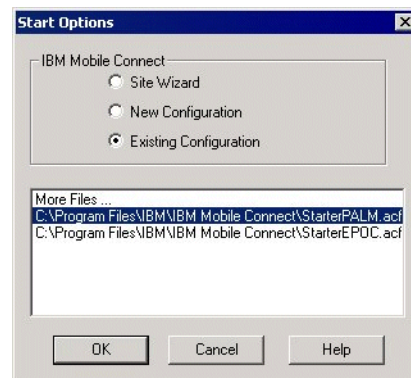
Figure 3-42   Selection of the configuration file

4. Click **+** to the left of Connect Configuration to expand this section.

5. Click **+** to the left of Action Sets to expand this section.

6. Right-click **Address** and select **Enable/Disable**.
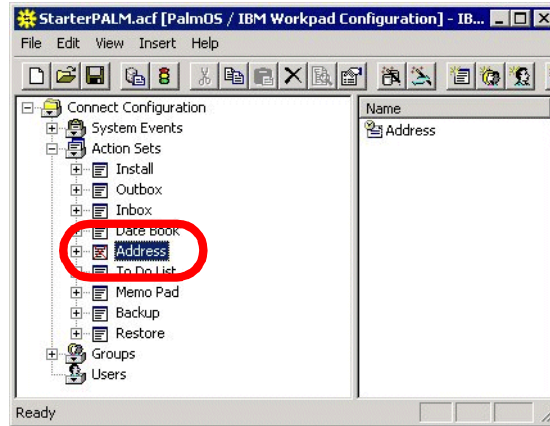
Figure 3-43   Enabling/Disabling action sets

The Address action set will now be marked with a little red cross which indicates it is disabled. To enable the action set again just repeat the previous step.

To delete the action set:

1. Right-click **Address** and select **Delete**.

Figure 3-44   Confirm the deletion

2. Click **Yes** to confirm that you want to delete the action set.

IBM Mobile Connect client setup

Use the following steps to set up each Palm device that is going to be performing an automatic HotSync session at the end of the IBM Mobile Connect session.

► Tap the **IBM Mobile Connect** icon on your Palm device.

► Tap the drop-down list button to the right of the **Connect** button or simply tap the entry shown.

► Select **Proxy-HotSync** from the drop-down list.
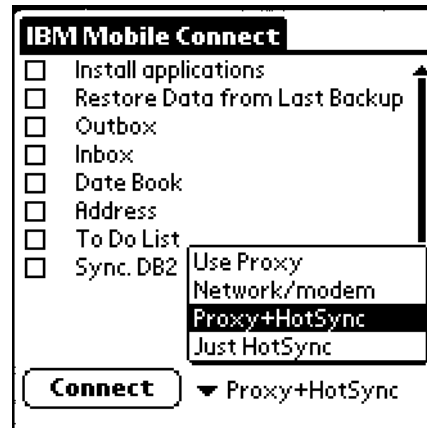
Figure 3-45   IBM Mobile Connect client setup

The next time the user performs a synchronization by tapping **Connect a HotSync session** it will also perform a HotSync session at the end.

3.5.2 Personal Address book held within the user's mail file

If your system policies do not allow your Lotus Notes users to create replicas on your Domino servers, you can take advantage of some of the new features introduced with the iNotes Web Access client.

The iNotes Mail and C&S template enables the users to synchronize their Personal Address book entries and Journal entries into their mail files. You can implement iNotes in your organization or create a new template for IBM Mobile Connect users who are to synchronize their address books held in mail files.

> **Tip:** iNotes mail template is shipped with Lotus Domino release 5.0.8 and above, and is called `iNotes Mail and C&S` with the filename `iNotes5.nsf`

Preparing the mail template

If you do not want to deploy the full iNotes mail template in your organization, you can copy a select group of design elements from iNotes Mail and C&S to the mail template using the following steps:

1. Copy the following design elements from the iNotes Mail and C&S template to the mail template.

    – Views
        • (iNotesContacts)
        • ($Journal)

- Agents
  - iNotes Web Access\Synchronize Contacts
  - iNotes Web Access\Synchronize Journal
- Script Libraries
  - iNotesSync

2. Update the mail files with the mail template.

The users will now have two new actions—Synchronize Contacts and Synchronize Journal—which can be used to synchronize locally held Notes databases into the mail file. You can, of course, rename these actions to read "Mobile" instead of "iNotes Web Access," like this:

Mobile\Synchronize Contacts

Mobile\Synchronize Journal

In the following example we have not changed the names of the agents.

Synchronize the Personal Address book entries to the mail file

The action Synchronize Contacts has to be performed by each user whenever they want to synchronize their Personal Address book entries with the entries held in their mail file.

1. Select **Actions->iNotes Web Access->Synchronize Contacts** from the menu.
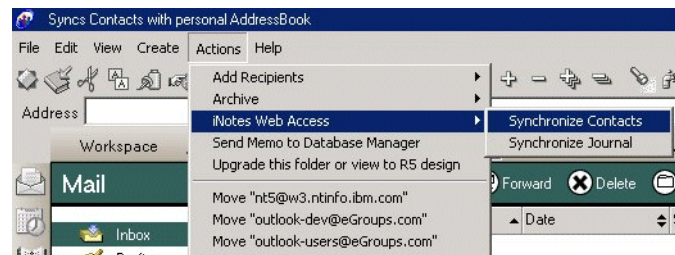
Figure 3-46   Synchronize Contacts action

The first time the Synchronize Contacts agent runs it checks the user's Personal Address book and sums up how many address book entries there are to be synchronized.
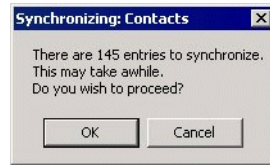
Figure 3-47   Personal Address book entries to synchronize

2. Click **OK** to synchronize the Personal Address book entries into the mail file.

   When finished, a window is displayed stating the number of inserted, updated, and removed entries in both the Personal Address book and the mail file.
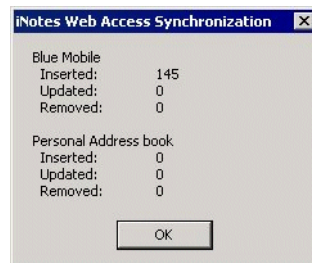
Figure 3-48   Status of the synchronization

3. Click **OK** to proceed and close the window.

In this example the synchronization inserted 145 address book entries from the Personal Address book to Blue Mobile's mail file.

IBM Mobile Connect server setup

In order to enable the IBM Mobile Connect server to synchronize the address book entries held in the mail file with the built-in PIM address book application on the PDA, you have to change the address action set or create a new one.

1. Select **Start->Programs->IBM Mobile Connect->IBM Mobile Connect Administration**.

2. Select the configuration file you would like to work with, in this example **StarterPalm.acf**, from the Start Option window.

3. Click **OK** to proceed.
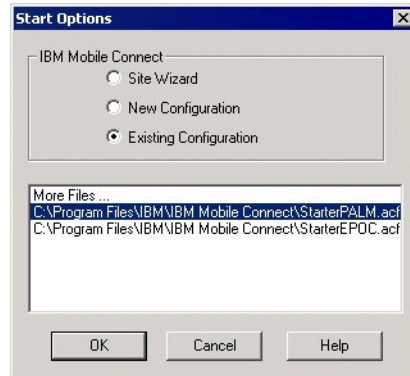
Figure 3-49   Selection of the configuration file

4. Click **+** to the left of Connect Configuration to expand this section.

5. Click **+** to the left of Action Sets to expand this section.

6. Click **+** to the left of Address to expand this section.

7. Right-click the **Address** action and select **Properties**.
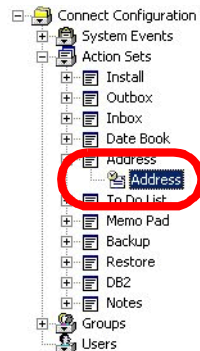
Figure 3-50   Select the Address action set

From the PIM Action Properties you will be able to configure the Notes settings and the properties for the PIM synchronization settings.
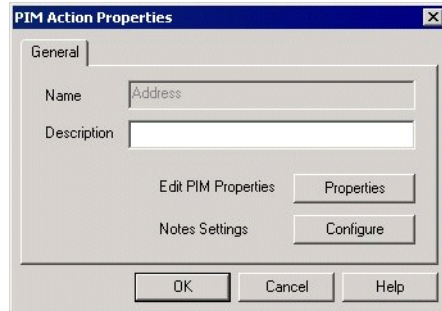
Figure 3-51   PIM Action Properties

8. Click **Properties** to edit the PIM synchronization settings.

Since you are changing one of the action sets set up by the Site Wizard during installation you are presented with a warning, shown in Figure 3-52.
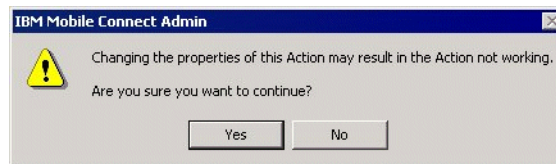
Figure 3-52   IBM Mobile Connect Admin warning

You could disable this and create a new Address action with the PIM Wizard, but in this example we will go on changing the existing action set.

► Click **OK** to proceed.

The only setting you have to change in the Database Action Properties is the Database type.

Figure 3-53 PIM Address database action properties

9. Click the **Database Type** list box.

10. Select **Default Mailbox Server** in the drop-down list

11. Click **OK** to save and exit the database action properties.

When you select the database type Default Mailbox Server, you select the tag that points IBM Mobile Connect to the user's mail file. The Form Name should not be changed unless you have changed the defaults for the Personal Address book template.

The next time the user performs an IBM Mobile Connect synchronization by tapping the Connect icon in the IBM Mobile Connect client on their PDA, the addresses held in the user's mail file are synchronized with the ones which might be held in a replica on the Domino server.

Part 2

Online access

In this part we describe the integration of online wireless devices with Domino using Domino Everyplace Access, Sametime Everyplace and Domino SMS. First we describe how to set up and deploy these products. Then we show how to customize and develop solutions using them.

4

Domino Everyplace Access

Wireless access to the Internet is quickly becoming commonplace, with the Wireless Application Protocol (WAP) standard becoming more pervasive every day.

Domino Everyplace Access enables wireless access by acting as a connector for handling communications between Domino servers and mobile devices. This chapter provides an overview of the installation and configuration of Domino Everyplace Access.

Later on, in Chapter 7, "Customized Solutions for Domino Everyplace Access" on page 217, we describe some of the ways to customize your Everyplace Access portals as well as enabling existing Domino applications to be accessed via any type of wireless device.

4.1 Introduction to Domino Everyplace Access

Domino Everyplace Access acts as a connector for handling communications
between Domino servers and mobile devices. The software accepts Hypertext
Transfer Protocol (HTTP) requests from the WAP gateway and returns
responses for the micro browser in WML. Domino Everyplace Access returns
responses based on a subset of the forms and views used to display messages,
calendar, to-dos and directory information in Notes. When accessing Domino
applications, the Domino Everyplace Access server will also act as a transport
mechanism for any application that has already been written in WML.
Companies can make a WAP-enabled application (such as a customized Domino
database) available to end users by placing the URL for it in the user's home
page. (See 7.3.3, "Creating customized portals" on page 232).
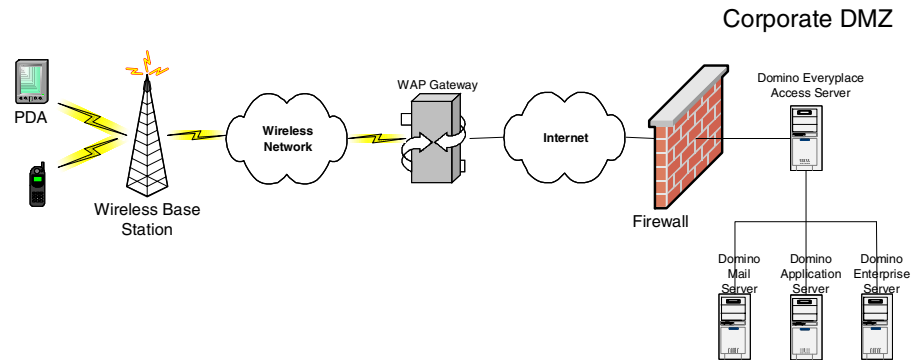
Figure 4-1   Overview of the basic Domino Everyplace Access server architecture

To deploy Domino Everyplace Access in a company, you will need a WAP
gateway. This is used to enable communication between the Domino Everyplace
Access Server and the WAP device using either the HTTP or SSL protocols.
Your wireless service provider (phone company) most likely has one you can
use. If they do not provide this or you want to handle this service yourself, there
are a number of companies offering WAP gateway software. Nokia has one
publicly available called the Nokia Activ Server WAP Gateway, for which you can
register a 30 day trial license. In the end you will need a phone or device that is
WAP 1.1 compliant, but for testing purposes a phone emulator will be sufficient.

4.2 Installation

In this section we describe in detail how to install Domino Everyplace Access and talk about considerations in that regard.

4.2.1 Server-based requirements

Following is a description of the server configuration of the Domino Everyplace Access Server and the minimum requirements to run the Access Server.

Server
The recommended minimum specification for using Domino Everyplace Access Server is an IBM-compatible, Pentium III-based server with a minimum of 256 MB of memory and at least 75 MB of hard drive space.

Platform
Domino Everyplace Access currently runs only on a Windows NT4 Service Pack 4 or later, or Windows 2000 with the latest service pack. The code is being written to run on Solaris, AIX, and the various types of UNIX, as well as Linux sometime in the near future.

Domino
The minimum server build to run Domino Everyplace Access is Release 5.06a or higher.

At the time of writing Domino Everyplace Access server is *not* certified to run on Domino Release 5.0.7a. There is a known issue with Domino 5.0.7a, and installing Domino Everyplace Access will fail. To avoid this installation issue, the workaround is to include the following line in the Domino server notes.ini file:

```
MSDWIgnoreDominoVersion=1
```

WAP gateway
Domino Everyplace Access server supports all types of Wireless IP-based WAP gateways. The Everyplace Access Server accepts multiple requests from the gateway and returns a response based on that particular request. It is sent via the HTTP protocol in WML, which is the format used to display that particular request on the handset or device. You will have to decide whether to sign up a local service provider that has a WAP gateway or purchase your own.

Many of the WAP gateway vendors offer a version free of charge to be downloaded for testing purposes. They do require you to register yourself before a license to use the software is sent to you.

To use the Nokia Active Server WAP Gateway, visit their web site at:

```
http://www.nokia.com/
```

Supported devices

Domino Everyplace Access supports a wide range of wireless networks and devices. It supports GSM, CDPD, TDMA, CDMA, and iDEN cellular phone networks, as well as IP-based connectivity. By supporting any device that uses a WAP 1.1 or compliant WML-based micro-browser, Domino Everyplace Access supports well over 40 different kinds of cellular phones and PDAs.

4.2.2 Pre-installation requirements

Before you begin the installation process you must have:

- ► Windows 2000 or WinNT server machine
- ► Domino server, release 5.06a or higher
- ► Manager access to the Domino server and Domino Directory
- ► Set up the Domino server with HTTP and Web access
- ► A Lotus Notes Administration client R5.0 or higher

WAP gateway

When you have decided which service provider/gateway you are going to use for your installation of the Access Server, you will require its IP address. Most wireless providers use some sort of firewall or proxy protection software and therefore could be using Network Address Translation (NAT). You must ensure that you have the correct IP address since it could cause some confusion if you are not able to connect the Access Server with your service provider's WAP gateway. See "Nokia Active Server WAP gateway" on page 357 for details on the Nokia WAP gateway installation.

Firewall

Unless you provide your own dial-in and WAP gateway service, deploying Domino Everyplace Access means that your company data will be connected to the Internet. Therefore, it is important to take a firewall solution into consideration if you do not already have one.

A *firewall* protects information and also ensures secure access so that valid users are able to access their appropriate data. You must ensure that you enable traffic using port 80, or port 443 if you decide to use Secure Socket Layer (SSL), from your chosen wireless WAP gateway provider.

> **Attention:** It is imperative that you disable all the other ports that you are not using because they could provide an entry point into your organization.

Domino

The Lotus Domino Server must be properly configured prior to the installation of the Everyplace Access Server. The Access Server communicates with other gateways using the HTTP protocol, so you must ensure that this server is set up as a Domino server appropriately configured with the HTTP protocol.

4.2.3 Installation process

At the time of writing the latest version of Domino is Release 5.0.8 and Domino Everyplace Access Server is at Release 2.1. These are the releases that we used to test the customized applications and wireless solutions described in this redbook.

Installing Domino Everyplace Access Server for the first time

Whether you are installing the Access server on an already running Domino server, or on its own dedicated Access server, the steps are the same. Ensure that you have Notes Remote Procedure Call (RPC) connectivity with the other Domino servers in your Domino Named Network (DNN) before you start the installation.

Follow these steps to install Domino Everyplace Access Server.

1. Insert the CD; the Domino Everyplace Access Server installation will begin automatically by displaying the product icon and install splash screen.

   It will detect if Domino is running. If Domino is running, you will be asked to exit Domino before starting install, and then the install program will exit.

   It will check your Domino release from the registry keys. If Domino R5 is not installed, you will be asked to install Domino R5 and then install will exit.

2. After the welcome screen showing product name and welcome message, click **Accept** on the Software License Agreement. The installation will create registry entries to hold the product information. The registry keys that are created are:

   – HKEY_LOCAL_MACHINE\SOFTWARE\Lotus\WDA\Path
   – HKEY_LOCAL_MACHINE\SOFTWARE\Lotus\WDA\DataPath
   – HKEY_LOCAL_MACHINE\SOFTWARE\Lotus\WDA\INIPath and
   – HKEY_LOCAL_MACHINE\SOFTWARE\Lotus\WDA\Version

3. Click **Next** on the InstallShield Wizard for the Everyplace Access Server and you should have a dialog similar to the one in Figure 4-2 on page 94.
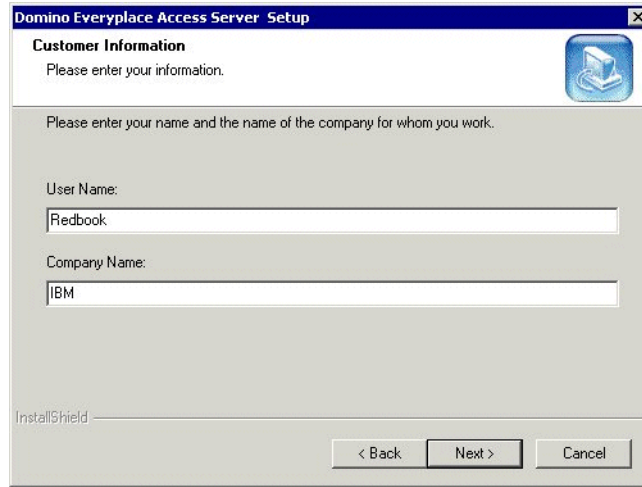
Figure 4-2   Customer Information screen

4. Enter your username and company information and click **Next**.
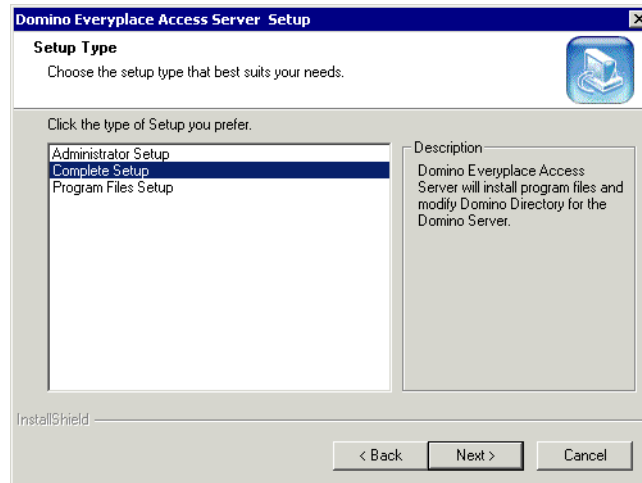
Figure 4-3   Domino Everyplace Access Server Setup type

5. Select the appropriate setup type and click **Next**. The options are:

   – **Administrator Setup** will only modify Domino Directory with the new forms and views used by the access server.

   – **Complete Setup** installs all the necessary files, and modifies Domino Directory, to run Domino Everyplace Access server.

– **Program File Setup** installs only the program files used for the Domino Everyplace Access Server.
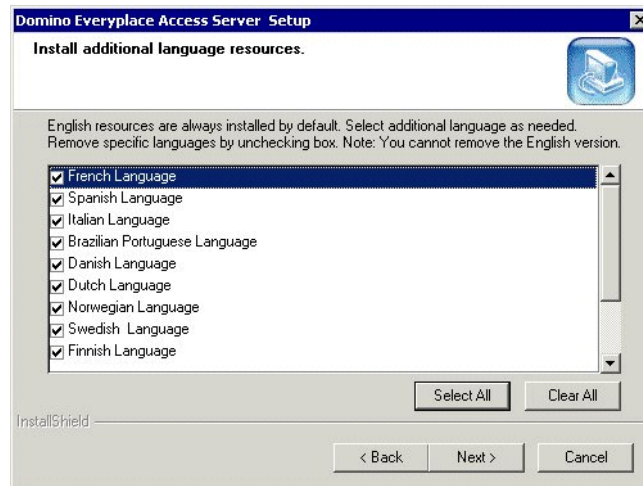
Figure 4-4   Domino Everyplace Access Additional Languages

6. Select the languages to install support for. English is always installed. Uncheck the languages that you do not want and click **Next**. It is recommended to install all the languages.

7. The required files are now copied to your Domino Program Directory. See Appendix A, "Additional information on Domino Everyplace Access" on page 343 for more information.
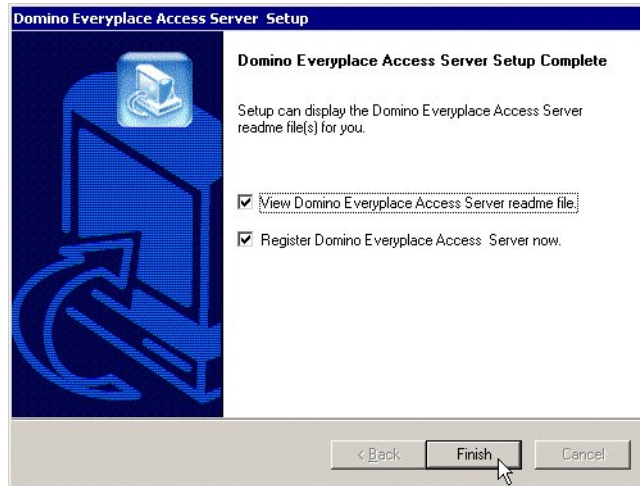
Figure 4-5   Domino Everyplace Access verification that Setup is Complete

8. Click **Finish** to complete the Domino Everyplace Access Installation.

Note: When the Install program has finished, you will be asked to register your Domino Everyplace Access Server. Please take the time to register your version of Domino Everyplace Access.

Tip: It is required that the Domino Everyplace Access Server be added as Manager to the Access Control List of all users' mail files. This can either be explicitly listed in the ACL or in the LocalDomainServers group, which by default should be listed with manager access in the users' mailfile.

Subsequent installs and uninstalls

If you have previously installed Domino Everyplace Access on your server, these will be the steps:

1. The install will obtain Domino Everyplace Access product information from the Windows registry. Included here is the path to the program-folder, the data-folder and the folder where notes.ini resides.

2. You are asked for the desired install type. The choices are **Repair** and **Remove**.

a. If you select **Repair**:

   i. All the files involved will be replaced by a fresh copy from the install source. The language selection dialog box will be displayed to allow you to add or remove language modules.

   ii. A dialog box will be displayed while files are being copied.

b. If you select **Remove**:

   i. A confirmation dialog box will be displayed.

   ii. The uninstall process will start by informing you that the install program is about to clean up the names.nsf. You can select **Cancel** to exit.
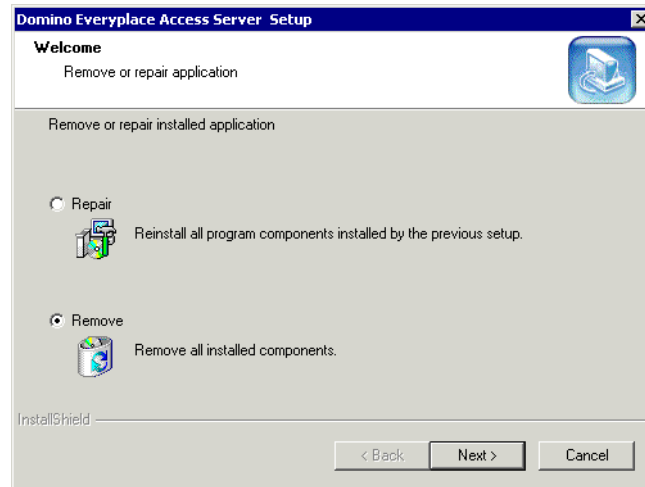
Figure 4-6   Uninstall options

   iii. A dialog box will provide you with two options for removing Domino Everyplace Access. You can choose between removing all program files, design elements and documents (which includes customization), or just removing the program files (see Figure 4-7).
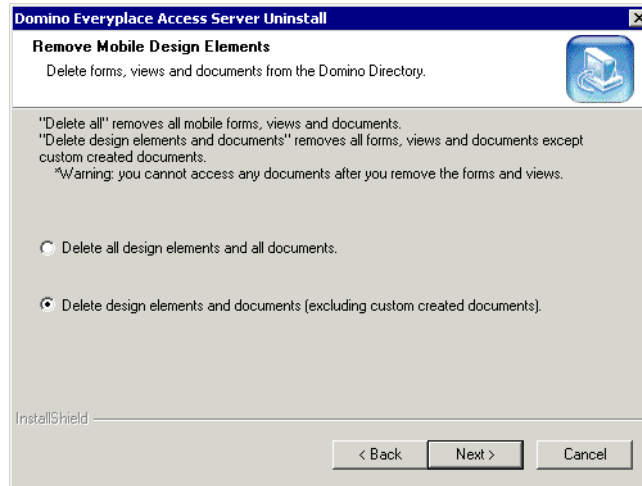
Figure 4-7   Removing design elements

   iv. The installation will perform a clean-up operation.

   v.   If there is an existing deslog.nsf file, it will be renamed to deslog0x.nsf (x has value of 1 to 5).

> **Note:** If you choose to remove the design documents and elements (without custom documents) this will not remove all the forms and views that were initially installed. We found that during the subsequent installs these forms were already present and were not re-added with the current install. When uninstalling again, we were not able to totally remove these forms and views as it was not apart of current install. We had to remove the design elements manually.

Several modifications are preformed on the server document during the initial setup. One of these changes is the Java Servlet Support. After you have installed Domino Everyplace Access, you will notice that your server is now using Java Servlet Manager for Java Servlet Support.

A servlet is a Java program that runs on a Web server in response to a browser request. When your server starts you will see the Java Virtual Machine load, as well as the Java Servlet Manager.
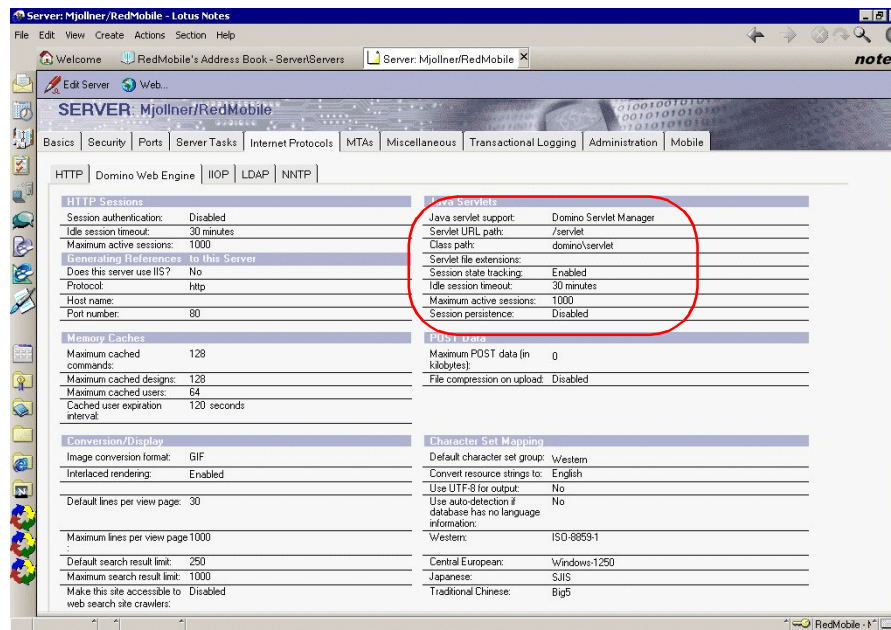
Figure 4-8   Internet Protocols - Domino Web Engine - Java Servlet Manager

If you were not previously using Domino's Java Servlet Manager or a 3rd party Java Servlet Support engine, then the installshield will enable the Domino Java Servlet Manager of the Domino Everyplace server document in Domino Directory. If you were using a 3rd party Java servlet engine, the installshield will not modify this field, but you will need to add the Java servlet files into your 3rd party Java servlet engine. This method has not been tested and is not supported. Domino Everyplace Access Server requires Domino's Java Servlet Manager to successfully run.
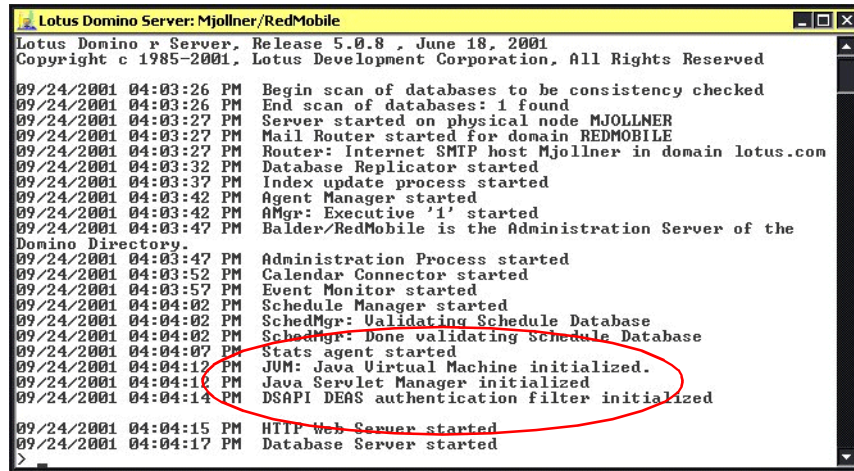
Figure 4-9   Domino Server - Java Servlet server tasks

The first time you start your Domino server you will notice that the Java Virtual Machine and Java Servlet Manager will be used.

Issues with installation

After installing Domino Everyplace Access, the installation process makes several modifications to Domino Directory.
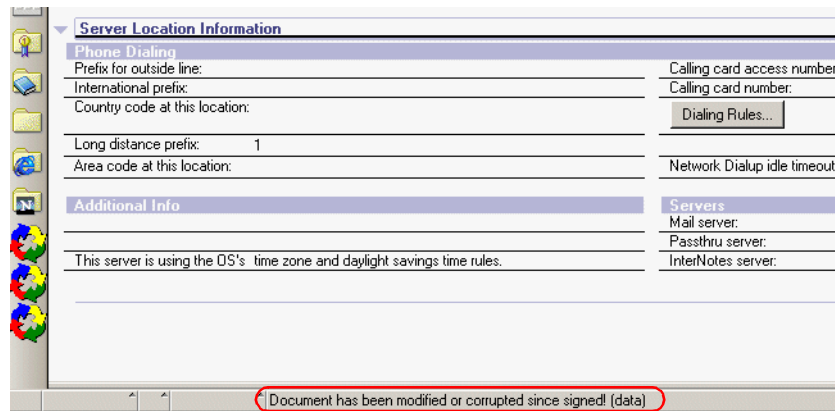
Figure 4-10   Domino Directory - Server document

When opening the server document on the Domino Everyplace Access Server, it issues a warning "Document has been modified or corrupt since signed! (data)" in the status bar. This is *not* correct; the installation process has added several views and forms to Domino Directory and has therefore been modified and is not corrupt.

Upgrading Domino Everyplace Access

If you already have Domino Everyplace Access release 2.0 installed, this will be identified and you will be asked if you want to upgrade. Here are the steps:

1. Ensure that you have a backup of the server. The Domino server must be shut down before the installation.

2. Insert the CD. If the setup does not start automatically, invoke the setup program by running the setup.exe file.

3. You will see the welcome screen as in Figure 4-11. Click **Next**.

4. Install will detect that you have a previous version installed and will ask if you want to upgrade your version. Click **Next** to upgrade your release of Domino Everyplace Access. If you click **Cancel** the setup program will exit.
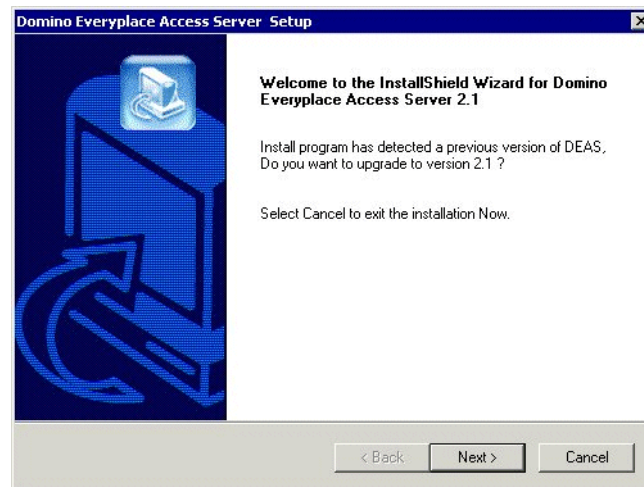
Figure 4-11   Install detected a previous version of Domino Everyplace Access.

5. The setup program will install the necessary files based on the previous installation of Domino Everyplace Access, and modify the Domino Directory with the updated views and forms.

Emulators

During the writing of this redbook, we used the Ericsson R380 emulator, as well as the Nokia 6210 and 7110. See "Emulators" on page 356 for information about getting this.

By entering in the gateway IP address and the home URL that the WAP handset should go to, you will be able to obtain your e-mail, to-dos, calendar ,and directories, as well as test any other Domino applications that you have enabled for wireless users.

For details on how to create a bookmark, see 4.4.1, "Bookmarks" on page 112.

Figure 4-12   Ericsson Emulator - WAP Gateway settings

If you are using the Ericsson R380 Emulator, which is publicly available from the Developer Zone on Ericsson's Web site, you will need to enter some WAP gateway IP address and Bookmark information, as shown in Figure 4-12.

Once the Gateway information has been marked as current and your bookmark has been created, you will be able to connect to the Domino Everyplace Access server and test your wireless applications or services.

Cluster

To help ease the load on the Domino Everyplace Access server, you can set it up in a clustered environment. If this is going to be the case you have to implement Internet Cluster Manager (ICM) or an equivalent IP Sprayer.

For detailed instructions on implementing ICM review the Domino 5 Administration guide.
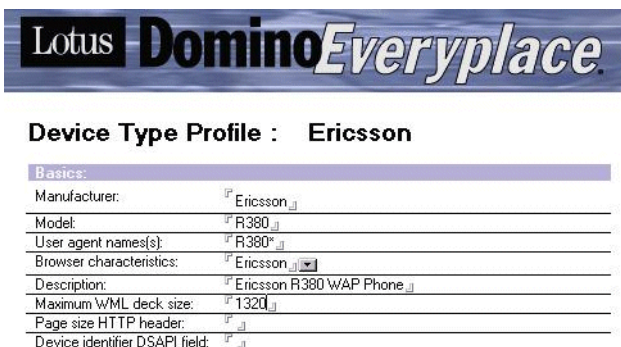
4.3 Configuration changes

With Domino Everyplace Access you will not require any further changes to be able to obtain the standard access to your mail, calendar, tasks, and public contacts from Domino Directory. We did, however, find the following issues that require some configuration changes.

Device profile for the Ericsson R380

If the Ericsson R380 handset is going to be used with the OpenWave (phone.com) WAP Gateway, you have to make a change to the WML Deck size limit. Data is sent to the wireless device in Decks. A deck can contain, for example, a list of documents in a Notes View, or a document to read. Every device has a limited amount of memory in which to save this deck. By default the deck size limit is set to 3800 bytes. The phone is capable of handling this amount of data; the issue is due to this type of WAP gateway. The OpenWave WAP Gateway adds additional header information to the packet that is sent to the wireless device, which results in an "Error 500: Internal Server Error" when trying to open the Inbox.

Figure 4-13   Domino Directory - Ericsson Device Type Profile

To resolve this you must change the Ericsson R380 device type profile.

Follow these steps to resolve this issue:

1. Open the Domino Directory. Select the view **Mobile->Device Types->By Manufacture**.

2. Highlight the **Ericsson R380 WAP Handset**.

3. Click "Edit Device Type profile."

4. Change the WML Deck Size limit to 1320.

5. Click **Save and Close**.

Personal address books

When you install Domino Everyplace Access, the Domino Directory is modified and and a Mobile page is added to the Person form. This allows you to customize settings specific for that individual user. One of these customized settings lets you specify a personal address book for each user. The personal address books can be replicated to any Domino server within your Domino network that is reachable from the Domino Everyplace Access server. This way users are able to access it via their wireless device.

If you use iNotes design on your Domino mail database, this can be set up as a personal address book. To get it to work correctly with Domino Everyplace Access, you should copy the view ($Users) from the template for the private address book into the mail database.

> **Note:** You will need editor access to Domino Directory to modify your users' person documents, or author if your users will be modifying this themselves.

Use the following steps to allow your users to access their Personal Address Book.
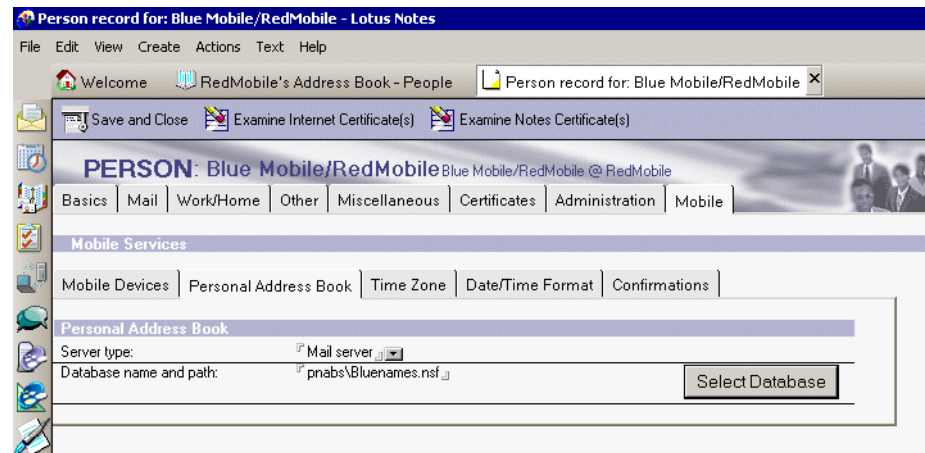
Figure 4-14   Domino Directory - Person Document - personal address book feature

1. Replicate the users' Personal Address Books to a server within your DNN. Your naming convention should be one that will identify each individual user.

2. Using the Notes Client, open the Domino Directory and select the "People" view.

3. Select the user and click **Edit Person**.

4. Select **Mobile - Personal Address Book**.

5. Select the appropriate server type from the menu.

  – **Mobile Server** indicates that the private address book is on the Domino Everyplace Access server.
  – **Mail Server** indicates that the private address book is to be used from the Domino server holding the user's mail database.
  – **Application Server** indicates that the private address book resides on any application server.

6. Click **Select Database** to browse for the database.

7. Click **Save and Close**.

> **Note:** Default configuration provides access to the People view of the Domino Directory only.

> **Tip:** To keep the server's replica up to date, you will need to create a connection document in the wireless user's personal address book and replicate it at a regular interval.

4.3.1 Domino Everyplace Access security

Domino Everyplace Access server uses a number of security features to ensure secure access to your Domino Everyplace Access server is being exercised. The following is a list of the security techniques available with the Domino Everyplace Access server:

► Trusted devices and device registration

► Domino HTTP authentication

► Domino ACL

► SSL

► Controlling access by IP addresses

Device registration

Domino Everyplace Access server has the ability to deny particular device IDs. You must register your mobile users by assigning a unique device ID in their person document. This is usually their subscriber ID or mobile phone number.

When your wireless users connect to their mail file, Domino Everyplace checks to see if the device ID that they are using is listed in the Deny Device List. If so, the user will receive the following error message. "You are not authorized to perform that operation."
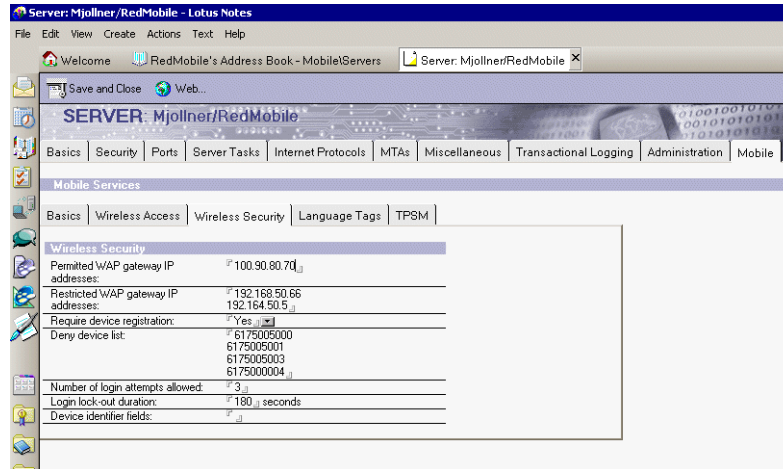
Figure 4-15   Domino Directory - Extract of Wireless Security

Tip: For more information on registering devices, see the Domino Everyplace Access Server Administrators Guide.

To enforce wireless security follow these steps.

1. Open the Server Document in the Domino Directory·

2. Select **Mobile->Severs** and click "Edit Mobile Server."

3. Select **Mobile->Wireless Security**.

4. In the "Require Device Registration" field select "Yes"

5. Enter the Device IDs that you wish to deny access, as shown in Figure 4-15 on page 106. If you need to, enter multiple device IDs separated by commas or semicolons.

Domino HTTP authentication

The Domino Web server automatically provides basic challenge/response authentication when anonymous access is set to "No Access". Therefore, when you access a Domino server via the HTTP protocol, it will challenge you for a valid username and password. If your users do not know their HTTP password, you will have to edit the Internet password in their person documents in the Domino Directory. If the username and password are valid, you will be able to access this resource on the server.

If this is the first Web server in your domain, ensure that you have enabled tight security on your Domino server since this server will be accessible via the HTTP protocol and therefore vulnerable to outside threats. This will limit the amount of attacks from unauthorized intruders. For a complete guide to all types of security, review the Domino 5 Administration Guide.

Secure Socket Layer

To enforce the highest level of security for your Domino Everyplace Access server, you will need to implement X.509 certificates for SSL (v3.1). This provides certificate-based authentication of the Domino Everyplace Access server to the WAP gateway, which provides 128-bit data encryption of all communications between the gateway and Domino Everyplace Access server.

SSL Security

SSL ciphers:	RC4 encryption with 128-bit key and MD5 MAC
	RC4 encryption with 128-bit key and SHA-1 MAC
	Triple DES encryption with 168-bit key and SHA-1 MAC
	DES encryption with 56-bit key and SHA-1 MAC
	RC4 encryption with 40-bit key and MD5 MAC
	RC2 encryption with 40-bit key and MD5 MAC
[Modify]	
Enable SSL V2: (SSL V3 is always enabled)	☐ Yes

Web (HTTP/HTTPS)

TCP/IP port number:	80
TCP/IP port status:	Redirect to SSL
Authentication options:	
Name & password:	Yes
Anonymous:	Yes
SSL port number:	443
SSL port status:	Enabled
Authentication options:	
Client certificate:	No
Name & password:	Yes
Anonymous:	Yes

Figure 4-16   Domino Directory - Ports - Internet ports - SSL settings

To do this you can either apply for a "Secure Server ID" from a Trusted Root Certificate Authority, or become one yourself. See the Domino 5 Administration Guide on how to set up Domino as a Certificate Authority, or go to one of the trusted root certificate authorities, such as Verisign, and apply for the Secure Server certificate.

Controlling WAP gateway IP access

With the standard install of Domino Everyplace Access server, all WAP gateways have the right of entry to the Domino Everyplace Access server. Realistically, every organization will already have some sort of firewall and/or proxy software protecting the entry points into the organization, as well as allowing your users appropriate access to your corporate resources.

You can, however, control who has access by listing the IP addresses of the WAP gateways that are allowed to access the Domino Everyplace Access server. To enable this follow these steps:

1. Open the Server Document and select **Mobile->Servers** view

2. Click "Edit Mobile Server."

3. Select the "Mobile Wireless Security" page.

4. Enter the IP addresses of the WAP gateways that are allowed to have access in the "Permitted WAP gateway IP Addresses" field, as shown in Figure 4-17.
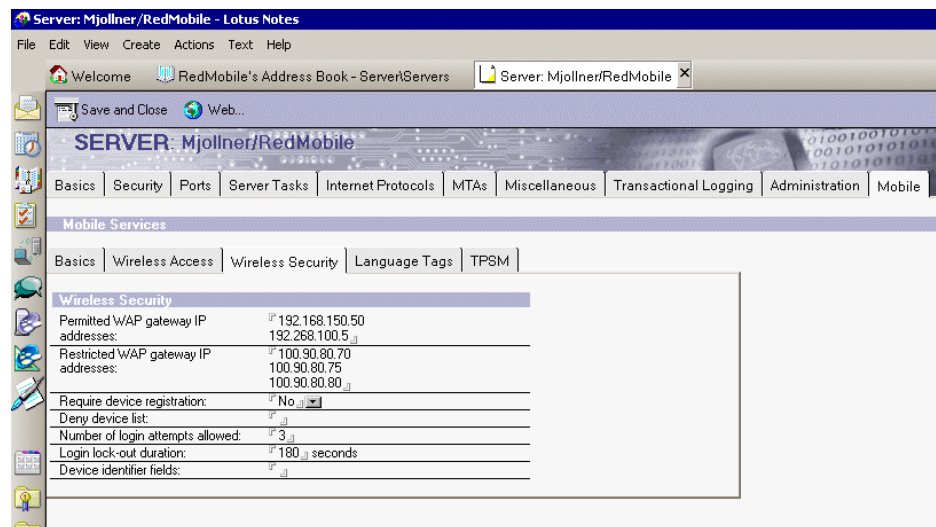
Figure 4-17   Domino Directory - Wireless security settings - Permitted WAP gateway

Note: To Deny access to specific WAP gateways, enter the IP addresses of the WAP gateways that are Restricted, as shown in Figure 4-17.

Tip: By default, both features are left blank, which means that all WAP gateways have access to Domino Everyplace Access server.

4.3.2 Handset security

By default, most handsets come with security disabled. This means that they are using the standard WAP connection that your wireless service provider uses to communicate with their gateway.
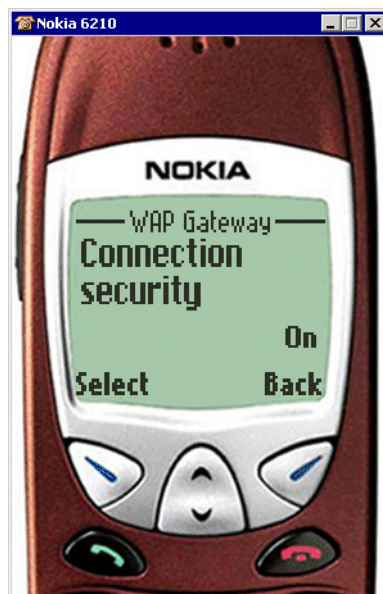
Figure 4-18   Nokia 6210: Security enabled in Connection setting

If you decide to enable security on your handset, this will force it to use Wireless Transport Layer Security (WTLS), which is the wireless version of Transport Layer Security (TLS). There are different types of WTLS, each of which adds an additional piece of security.

► WTLS Class 1 allows for an anonymous connection between the WAP gateway and the wireless device.

► WTLS Class 2 provides the same feature as WTLS Class 1, as well as server-based authentication.

► WTLS Class 3 combines all the features of Class 1 and Class 2, and adds client authentication.

All WTLS Classes require the use of a digital certificate. When you enable security on your wireless device, this digital certificate will be downloaded when you initially connect to the WAP gateway, and will be used for future authentication. Most WAP-enabled mobile phones come with the ability store these digital certificates which the WAP gateway sends down to the phone the first time it successfully authenticates itself to the gateway. This digital signature has been signed by a trusted certificate authority (or something similar), which is used to identify you. This will ensure that you are using the WTLS protocol which will encrypt and decrypt information sent between the mobile device and the WAP gateway.

Each time you connect to the Gateway this digital certificate is used to verify you, along with a challenge and response, username and password, to get access to the Domino Everyplace Access server.
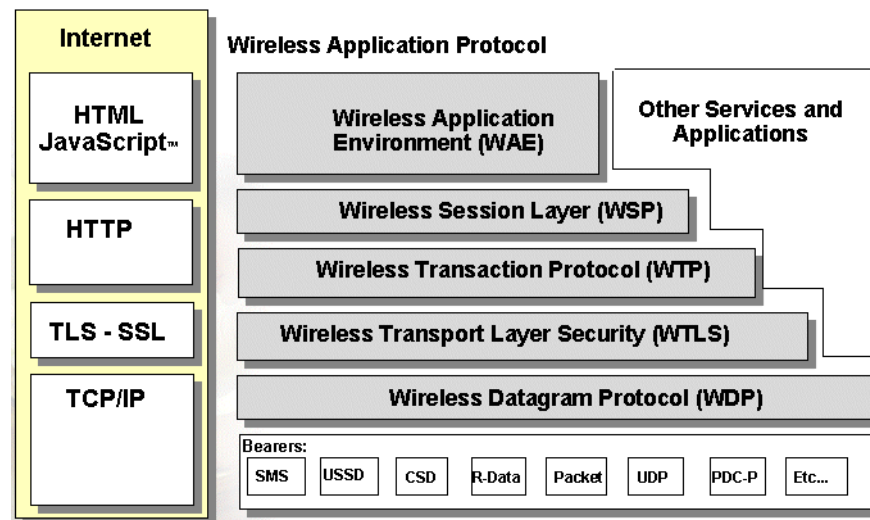
Figure 4-19   Comparison of WAP and Internet protocols

> **Important:** For a more in-depth look at the protocols that are available to you, consult your wireless service provider.

If you decide not to enable security this does *not* mean that you are necessarily susceptible to hackers tampering with the information you send from your mobile device to the WAP gateway. When your device is transmitting to the network base station, it is using its own method of encryption. For example, the GSM network, when security is disabled, still uses standard GSM/A5 encryption between the wireless handset and the WAP gateway. If you enable security on the handset, you will be enabling Class 1 WTLS, which is the Wireless equivalent of SSL. To do this you have to enable it in your phone's micro-browser settings. This will enable 128-bit encryption between the handset and the WAP gateway, with the use of the certificate which is initially downloaded to the handset the first time you connect to the WAP gateway.

Using a non-phone.com handset and the OpenWave (Phone.com) WAP Gateway does not support the client certificate exchange when security on the handset is enabled. This means that when initially connecting to the WAP gateway you will not receive a client certificate which is used to verify who you are. Instead you will receive the following additional message: "Secure Server Unknown! Secure Server Unknown Key Exchange: RSA, 1024-bit key (high) Encryption: RC5, 128-bit key (high) Hash: SHA-1, 160-bit key." Your options are to *Accept* or *Reject*. If you accept this message, you are still enabling the highest level of encryption, but for this session only. Therefore, even though you are using the WTLS protocol, it is valid for the current session only. Your mobile users are going to have to accept this message every time they access the WAP gateway, as there is nothing in common between the two devices (such as a common X.509 digital certificate).

> **Tip:** Ensure that you have allowed port 80 to be passed through the firewall to the Domino Everyplace Access server. For additional security you can specify to allow port 80 from the wireless WAP gateway only.

4.4 Connecting to Domino Everyplace Access server

To connect to the Domino Everyplace Access server you must have the Wireless Gateway connection settings. This includes the dial-up phone number and Gateway IP address. Once this has been entered into your device you must create a Bookmark. Some service providers create a link on either a

company-specific home page with a link to your Domino Everyplace Access server, or their own branded home page, which will also have a link to your Domino Everyplace Access server. To bypass this step you must create a bookmark to directly connect you to your Domino Everyplace Access server.

Most wireless providers have the ability to send you the configuration settings via an SMS message. This is called Over The Air Configuration (OTAC); it will contain all the necessary settings that your handset requires to be able to use their WAP gateway. Go to your phone provider's Web site or call them to send you an OTAC setting for using their WAP gateway.

4.4.1 Bookmarks

To create a Domino Everyplace Access Bookmark for your WAP-enabled handset:

1. Navigate to **Bookmarks**. This will be in your services or connection settings.

Figure 4-20   Ericsson R380 Bookmarks folder

2. Choose **Add New Bookmark**.
3. Enter the URL address as follows:

   `http://<ServerName>/servlet/deas`

4. If SSL is not being enabled the http:// and www are not required. If you are using SSL, then the full URL is required. Also, you are able to use the server's registered IP address instead of the Host Name, but only if SSL is not being used.

5. Enter a name for the bookmark and click **OK**.

Figure 4-21   Ericsson R380 - Domino Everyplace Access URL

Note: In a previous release of Domino Everyplace the URL was
`http://<server name or IP address>/servlet/msdmain?r=hp`. This will
continue to work even if you have upgraded to the latest release of the access
server.

4.4.2 Connection to Domino Everyplace Access server

When the phone's WAP connection setting and the bookmark have been
configured correctly you will be able to access Domino Everyplace Access server
through your WAP handset. Simply navigate to the appropriate Bookmark that
you configured and select **Go To**. This will start your phone's browser and
prompt you for your Notes username and HTTP password.

Figure 4-22   Ericsson R380 - Mobile Notes Login screen

Provided your Device ID is not listed in the Deny Device List and you have
entered the correct username and password, you will be taken to the Mobile
Notes Home Page. If you have tried to log in and are taken back to the Mobile
Notes Login page, it is because you have entered an incorrect username and
password. Enter the correct username and password.
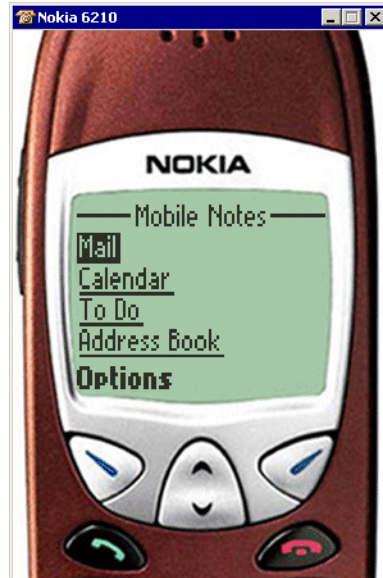
Figure 4-23   Nokia 6210 - Mobile Notes Default Home Page

Domino Everyplace Access can be set so that you are locked out after a certain number of failed login attempts for a specified period of time. By default this is set to 180 seconds and failed login attempts are set to 3. To modify this figure:

1. Open the Domino Everyplace Access server document and click the **Mobile**, then **Wireless Security** page.

2. Fill in the fields "Number of login attempts allowed" and "Login lock-out duration."
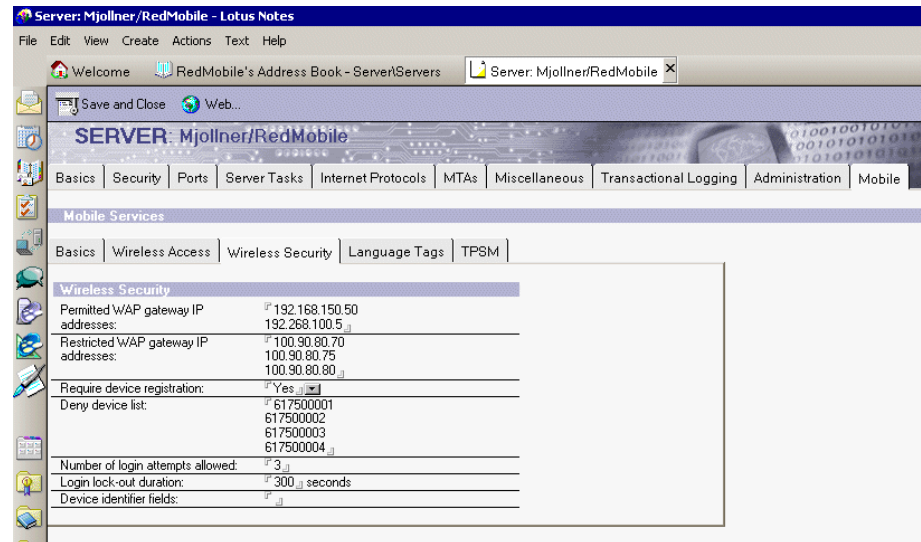
Figure 4-24   Domino Directory - Server Document - Failed login attempts and lock-out fields

3. Click **Save and Close**.

4. You will need to restart the domino server before these changes take effect.

> **Note:** The Domino Everyplace Access server does not cache any of the user information, nor does it use cookies. However, most devices cache sessions, and if you lose your wireless device during this session, outsiders will be able to gain entry into your Domino network. Therefore it is best to get into the habit of clearing the cache on your phone on a regular basis.

4.5 Additional information

Domino Everyplace Access server also has multiple language support. When you installed Domino Everyplace Access server, it installed English language support by default. If you installed the default options this would have installed all other languages as well.

4.5.1 Language support

The end user User Interface (UI) is available in the following languages: Brazilian Portuguese, Dutch, Danish, Finnish, French, German, Italian, Korean, Norwegian, Simplified Chinese, Spanish, Swedish, and Traditional Chinese.

These languages are installed as part of the core English product. The UI language is determined from a setting that the WAP browser on the phone passes to the Domino Everyplace Access server when requesting a page; this can be overridden by a language setting for mobile users in the directory.

Domino Everyplace Access server also provides National Language Support (NLS), which includes character set support for Czech, Greek, Hungarian, Polish, Russian, and Turkish.

4.5.2 Character sets

Domino Everyplace Access server uses UTF-8 when sending to the device. Inbound is in UTF-8 as well, but we also recognize other registered character sets from the information in the content-type header.

If a charset parameter is missing, Domino Everyplace assumes it to be 8859-1.

5

Using Sametime Everyplace

Sametime Everyplace extends the collaborative power of Sametime to the mobile business user. Mobile users can see if their colleagues are online and send instant messages or initiate text chat. Desktop users can see if their mobile colleagues are online and use the best way to communicate with them whether via an instant message, phone call or e-mail.

Mobile users with WAP 1.1-enabled devices can open the same contacts list they have in the desktop Sametime client. They are able to reach their colleagues anywhere, through a cell phone or a PDA, and send them instant messages or even chat with them.

This chapter describes the following aspects of Sametime Everyplace:

► Architecture
► Installation
► Configuration
► Client access
► Features

5.1 Architecture of Sametime Everyplace

Sametime Everyplace requires both a Domino server and a Sametime server. It is in fact a servlet application, which can receive requests from WAP browsers and pass them to the Sametime server. Once it gets the responses from Sametime, it serves WML content to the mobile devices. Figure 5-1 shows an example of the deployment of a Sametime Everyplace solution. Note that the Sametime Server and the Sametime Everyplace Server can be installed in the same computer or separately. However, in either case Sametime Everyplace has to be installed in a Domino Server (5.0.6a or higher).
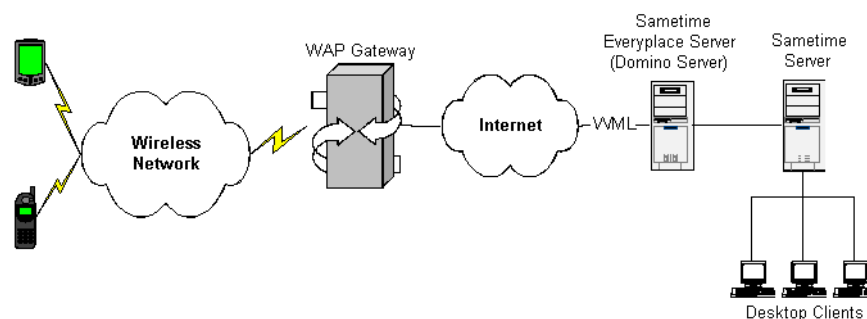
Figure 5-1   The architecture of a Sametime Everyplace solution

But the complete functionality of Sametime Everyplace is only achieved when it is used together with Domino Everyplace Short Messaging Server (SMS). This eliminates the need for a permanent connection for the mobile user; it is especially important in regions where mobile Internet connections are expensive. Domino Everyplace SMS enables Sametime Everyplace to send an SMS message to the disconnected mobile user any time another user wishes to contact him or her. Domino Everyplace SMS is another product, and should be installed in a different server, as shown in Figure 5-2.
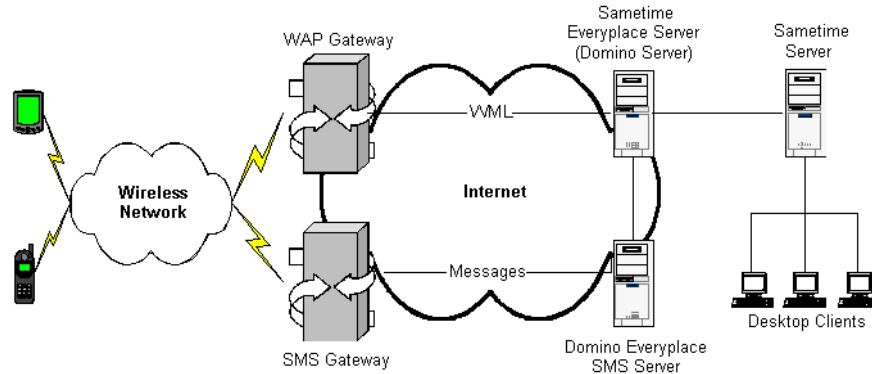
Figure 5-2   Sametime Everyplace with Domino Everyplace SMS

As with the desktop version, almost everything continues to be handled by the Sametime server. Sametime Everyplace is nothing more than a gateway to wireless devices, acting as a Sametime client.

Once the Sametime Everyplace server is contacted by a mobile device, it authenticates the user by making a call to Sametime. The Sametime server contains two databases: a Secrets database (STAUTHS.NSF) and a Tokens database (STAUTHT.NSF) that are used to authenticate Sametime Everyplace and Sametime users.

5.1.1 Planning your Sametime Everyplace deployment

Here are some things you should pay attention to when planning your Sametime Everyplace deployment:

Installing on different servers

Sametime Everyplace can be installed on the same server as Sametime, or it can be installed on a different server. However, it must be installed on a Domino server, so if Sametime is not on a Domino server, you must use a separate server for Sametime Everyplace. If this is the case, then you must create a replica of the Secrets database (STAUTHS.NSF) on the Sametime Everyplace server. If you use authentication by tokens, you must create a replica of the Tokens database (STAUTHT.NSF) on the Sametime Everyplace server.

Security issues

Sametime Everyplace must have access to Sametime's address book, which is often the standard Domino directory used by your whole organization. Consequently there are security issues involved.

If you decide to put the Sametime Everyplace server on a server other than the one Sametime is on, you must also decide whether it should be in the same Domino domain or not. You may want to put the Sametime Everyplace server in a different Domino domain and then create a separation level between the Sametime server and the outside world for security reasons. If Sametime Everyplace is in a domain separate from the Sametime and mail servers, you must do the following:

► Cross-certify the Sametime Everyplace server with the Sametime server.

► Create a connection document between the Sametime Everyplace server and the Sametime server.

► Enable Directory Assistance so the Sametime Everyplace server can find your organization's address book.

For more information on how to perform these tasks, refer to the *Sametime Everyplace Help* included with the product, or to *Domino 5 Administration Help*.

For extra protection, you can install the Sametime Everyplace server in a zone between two firewalls, one between the Sametime Everyplace server and the rest of your organization, and other between the Sametime Everyplace server and the Web (see Figure 5-3).

Figure 5-3   Example of a Sametime Everyplace installation between two firewalls

Integrating Sametime Everyplace with Domino Everyplace SMS

If you want your Sametime Everyplace users to send and receive notifications from other Sametime users, you must also install Domino Everyplace SMS. Domino Everyplace SMS contains the short messaging services software that enables Sametime Everyplace or Domino users to exchange messages with mobile devices.

It is a different product, but when you purchase Sametime Everyplace you are entitled to use a Domino Everyplace SMS license for the Sametime Everyplace users. This means you can install Domino Everyplace SMS and use it, but not for Domino users, just for Sametime Everyplace users. If you need Domino Everyplace SMS functionality for Domino users, you have to purchase the required Domino Everyplace SMS Domino users licenses.

See 6.4, "Installing Domino Everyplace SMS" on page 185 for instructions on how to install Domino Everyplace SMS.

5.2 Installing Sametime

As stated before, Sametime Everyplace sits on top of a Domino server and a Sametime server. You will need to have both up and running before installing Sametime Everyplace.

We will assume that you have a Domino Server 5.0.6a or later installed in your enterprise. If that is not the case, we will assume that you know how to install and set up a Domino server.

5.2.1 System requirements for Sametime

The minimum system requirements for installing Sametime are the following:

► Operating system: Windows NT Server 4.0 Service Pack 6a, Windows 2000 Server (Service Pack 1 or 2) and Windows 2000 Advanced Server (Service Pack 1 or 2).

► Processors: Pentium II 350 MHz minimum.

► RAM: 256 MB minimum, 512 MB recommended.

► Disk space: 500 MB free disk space minimum, 1 GB is recommended to allow space for meetings and meeting recordings.

► Disk swap space: 64 MB.

► Network protocols supported: TCP/IP.

► Web browsers supported: Netscape Navigator 4.5, Netscape Communicator 4.7, Microsoft Internet Explorer 4.01 SP 2, 5.01 and 5.5 SP 1.

   Note: Internet Explorer 6.0 is *not* supported by Sametime 2.5 at the time of writing.

► Sametime interoperates with Lotus Domino server versions 5.0.7a or higher.

5.2.2 Before you begin

Sametime uses agents that must access the Domino Directory for some functions, including creating a meeting. The signatures of these agents must have access rights to the primary Domino Directory on the Sametime server. The minimum access level required for these agents is "Reader". If you do not know what signatures and access levels are, refer to the *Domino 5 Administration Help*.

If yours is a Web-only installation, you will not have to worry about these agents. but if you are integrating Sametime with an existent Domino Directory, then the Domino Directory must have a minimum default access level of "Reader". If the security policies of your organization require you to set the default access level of the Directory to "No Access", you must add the "Sametime Development/Lotus Notes Companion Products" ID to the Domino Directory ACL and provide the ID with a minimum of "Reader" access to the Domino Directory.

5.2.3 Starting the installation

We recommend that you use the latest available version of Sametime (Release 2.5 at the time of writing).

> **Note:** Although the Sametime 2.5 installation guide mentions that it can be used in a Web-only environment, without interacting with Domino servers, Sametime Everyplace has to reside *in* a Domino server.

You can install the Sametime server on a dedicated Windows NT or Windows 2000 server in a Domino environment, or you can install the Sametime server on the same machine as an existing Domino server (5.0.7a or higher).

Take a few moments to read the *Sametime 2.5 Release Notes*, which comes with the installation CD. This document provides valuable information, especially if you are already familiar with Sametime.

For further information, refer to the *Sametime 2.5 Installation Guide* that also comes in the CD.

> **Note:** Sametime documentation is available in PDF format for downloading or printing. You can find the documentation at the following Web site: `http://notes.net.`
>
> Click the Doc Library button, and then click the link to search for documentation by product. Click the Sametime link to locate Sametime 2.5 documentation.

Make sure you have Administrator privileges and, if you are installing Sametime in the same computer as a Domino server, that the Domino services are stopped. Go to the CD folder called Server. There you will find an executable file named setup.exe. Double-click that file to start the Sametime 2.5 installation.

You will be presented the Sametime Setup welcome screen, shown in Figure 5-4.
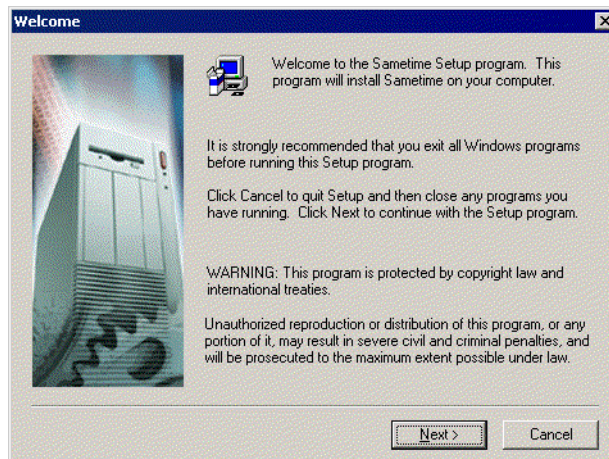
Figure 5-4   Sametime 2.5 Setup welcome screen

Click **Next** to continue. Read the Software License Agreement and click **Yes**.

Choosing the installation type
The first thing you will have to select is the type of installation. Sametime 2.5 lets you choose from a Core installation, which includes the awareness, messaging, screen sharing and white board features, to a Complete installation, which installs the audio/video conference capabilities.

The Sametime Server installation screen (Figure 5-5) allows you to make this choice.
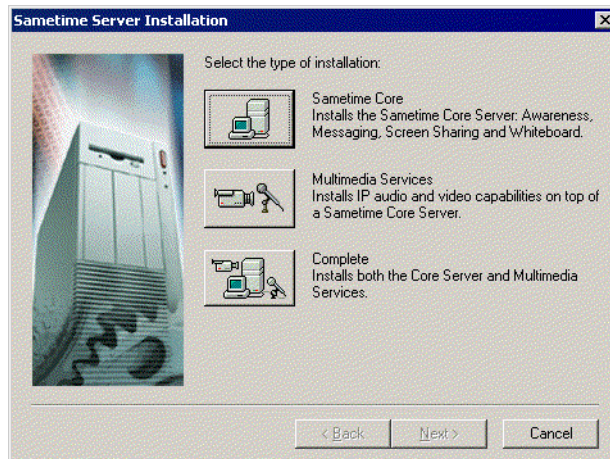
Figure 5-5   Type of installation selection

Sametime Everyplace mobile users will not be able to take advantage of the multimedia features of Sametime. However, you can use Sametime Everyplace with a complete installation of Sametime.

Click **Complete** if you want your users to use audio and video resources with Sametime, or **Sametime Core** otherwise.

Installing on a Domino server
If you are installing the Sametime server on the same computer that a Domino server resides, you will be asked to shut down your Domino server before the installation continues. See Figure 5-6.
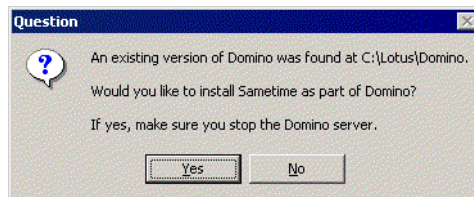
Figure 5-6   Prompt window

After all files are copied, reboot your server. When it starts again, log on with the account you have used before. You will be prompted to enter the name and location of your Domino Server ID file.

> **Attention:** Do not abort the installation at this point or you will not be able to resume it. Furthermore, you will not be able to reinstall it on top of the aborted installation, and if you try to uninstall it, the computer will probably hang. If that happens, you need to edit the Registry manually and erase all references to Sametime.

As the configuration finishes, start your Domino server as you normally would. You will notice that the Sametime services will start among the other Domino tasks.

5.3 Installing Sametime Everyplace

The Sametime Everyplace installation is quite a simple task.

5.3.1 Software and hardware requirements for Sametime Everyplace

CPU: Pentium II 500 MHz or higher

Operating system: Windows 2000 Professional or Windows NT 4.0 SP5

RAM:

Windows NT 4.0: 256 MB minimum, 512 MB recommended

Windows 2000: 384 MB minimum, 640 MB recommended

Disk space: 300 MB of free space, 500 MB recommended for meetings

Disk swap space: Double the memory size

Browsers: Internet Explorer 4.01 SP2 or Internet Explorer 5 (or higher, except 5.0), Netscape Navigator 4.5 or higher (except 4.7)

Network protocol: TCP/IP

5.3.2 Before you begin

These are the things you have to do before running the Sametime Everyplace installation program:

1. Create a new user and Internet password entry in the Sametime server's address book. This new account is going to be used by the Sametime Everyplace servlet to log into Sametime. You must also enter this user name and password in the Global Settings section of the Sametime Everyplace

Administrator's database later (see 5.4.1, "Specifying global settings" on page 131).

2. Create the Wireless Admin and Wireless Users groups in the Domino Directory on the Sametime Everyplace server. The groups should contain users from the Sametime server's address book. The Wireless Admin group should contain all users to whom you want to give administrator privileges on the Sametime Everyplace server. The Wireless Users group should contain all users to whom you want to give mobile access.

3. Add the System Administrator and the server to the Wireless Admin group.

4. If you plan to use Domino Everyplace SMS to receive inbound notifications, create a Foreign Domain document:

   a. Under the Basics tab, enter Sametime Everyplace_servername_DOMAIN in the Foreign Domain Name field.

   b. Under the Mail Information tab, enter the Sametime Everyplace server name in the Gateway server name field. Enter `stwap.box` in the field labeled Gateway mail file.

   > **Note:** You may need to create a non-adjacent domain document for the Domino Everyplace SMS server if the Domino Everyplace SMS server is in a different Notes domain than the Sametime Everyplace server. See *Domino 5 Administration Help* for information about non-adjacent domain documents.

   c. Manually create stwap.box using the R5 mailbox template.

5. Read the *Sametime Everyplace 1.0 Release Notes*. This document has valuable information on known issues and limitations of the product.

5.3.3 Starting the installation

Find the file named setup.exe in your Sametime Everyplace distribution and run it. You will be presented the following screen (Figure 5-7).
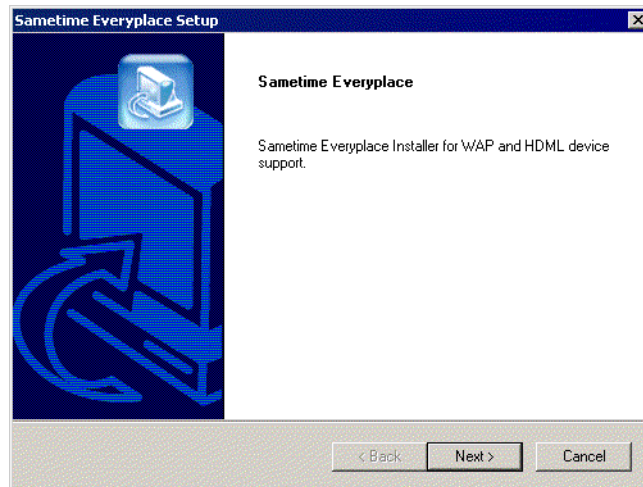
Figure 5-7   Sametime Everyplace installation welcome screen

Click **Next** to start the installation.

The next screen (Figure 5-8) is the Required product check. The installation program prompts you to verify if all the products needed for Sametime Everyplace are installed within your enterprise.
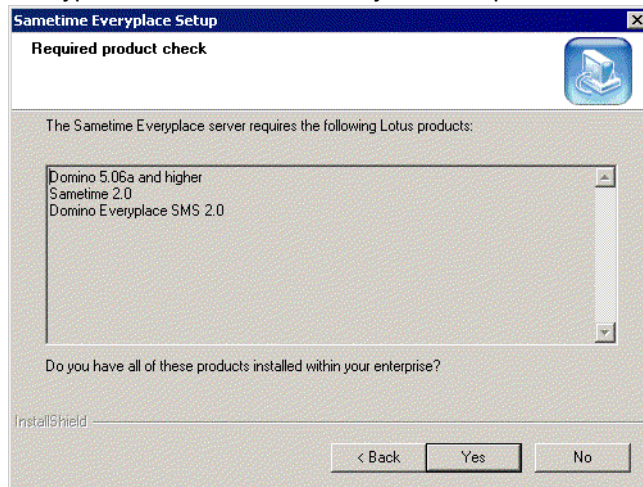
Figure 5-8   Required product check for Sametime Everyplace

Click **Yes** if you are sure that all of the products are installed within your enterprise and you want to continue the installation. Otherwise, click **No** to terminate it before completion.

The installation program will also have to know the location of your NOTES.INI file. This is important because sometimes the Notes client is also installed on the server, and it has its own NOTES.INI file. Be sure to point it to the NOTES.INI file from your server, not the one from the Notes client. The NOTES.INI file from the server is the one that is located in the same folder as the Domino server program file (NSERVER.EXE).

The installation program will then prompt you for the correct location of the NOTES.INI file, as shown in Figure 5-9.
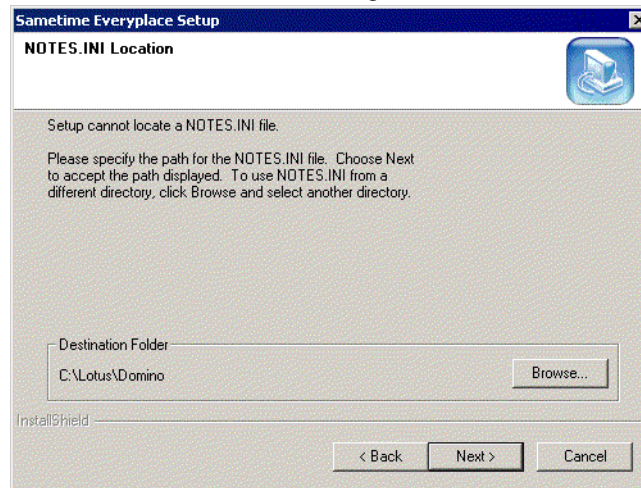
Figure 5-9   NOTES.INI location screen

If your Domino server is installed in the default directory, accept the default location and click **Next**. Otherwise, click **Browse** to search for the correct NOTES.INI file.

> **Attention:** If for any reason you choose a path where Sametime Everyplace installation program is not able to find a NOTES.INI file, installation will terminate and you will have to start over. The same will happen if the selected NOTES.INI file does not contain a Directory entry.

Accept the Software License Agreement that is presented to you.

Before actually copying the files to your server, the installation program presents you a screen (Figure 5-10) with a summary of the installation tasks that are about to be performed.
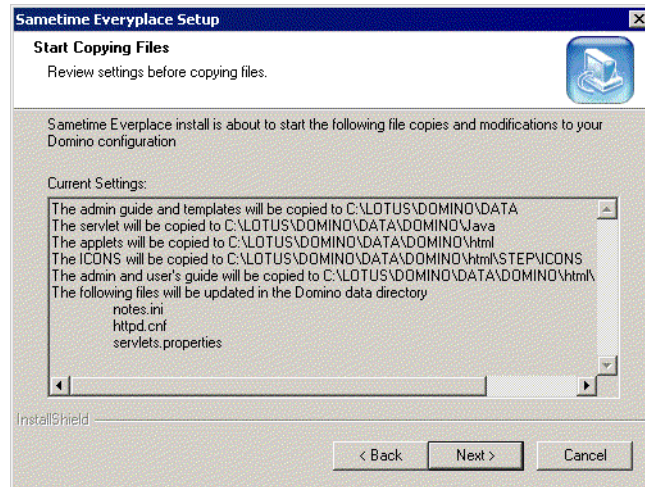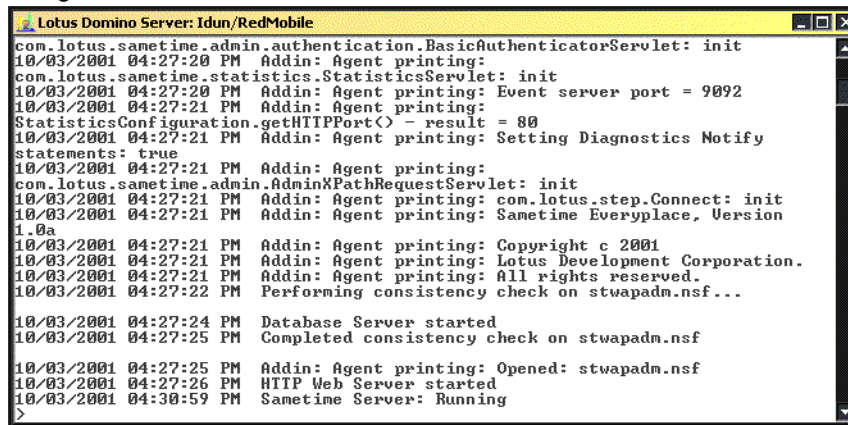
Figure 5-10   Start Copying Files screen

Read or print the information presented to you, because it can be useful in the future. Click **Next** to start copying the files, **Back** if you wish to change anything or **Cancel** to terminate the installation process.

If your Domino server is running, restart it. When you do so, Sametime Everyplace will check for the existence of the Administrator database (STWAPADM.NSF), and create it if needed.

If you take a look at the Domino console window while it is restarting, you will see some messages about the agents from Sametime Everyplace, like those shown in Figure 5-11.

```
Lotus Domino Server: Idun/RedMobile                                    _ □ ×
com.lotus.sametime.admin.authentication.BasicAuthenticatorServlet: init
10/03/2001 04:27:20 PM  Addin: Agent printing:
com.lotus.sametime.statistics.StatisticsServlet: init
10/03/2001 04:27:20 PM  Addin: Agent printing: Event server port = 9092
10/03/2001 04:27:21 PM  Addin: Agent printing:
StatisticsConfiguration.getHTTPPort() - result = 80
10/03/2001 04:27:21 PM  Addin: Agent printing: Setting Diagnostics Notify
statements: true
10/03/2001 04:27:21 PM  Addin: Agent printing:
com.lotus.sametime.admin.AdminXPathRequestServlet: init
10/03/2001 04:27:21 PM  Addin: Agent printing: com.lotus.step.Connect: init
10/03/2001 04:27:21 PM  Addin: Agent printing: Sametime Everyplace, Version
1.0a
10/03/2001 04:27:21 PM  Addin: Agent printing: Copyright c 2001
10/03/2001 04:27:21 PM  Addin: Agent printing: Lotus Development Corporation.
10/03/2001 04:27:21 PM  Addin: Agent printing: All rights reserved.
10/03/2001 04:27:22 PM  Performing consistency check on stwapadm.nsf...

10/03/2001 04:27:24 PM  Database Server started
10/03/2001 04:27:25 PM  Completed consistency check on stwapadm.nsf

10/03/2001 04:27:25 PM  Addin: Agent printing: Opened: stwapadm.nsf
10/03/2001 04:27:26 PM  HTTP Web Server started
10/03/2001 04:30:59 PM  Sametime Server: Running
>
```

Figure 5-11   Console window of the Domino server where Sametime Everyplace was installed

The installation process is over. You can now proceed to the configuration phase.

5.4 Configuring Sametime Everyplace

Once you have installed Sametime Everyplace, you will have to use the Notes client or a Web browser to open the Sametime Everyplace Administrator's database and fine tune your installation.

You will have to set up the following:

▶   Server information and default user settings

▶   User profiles

▶   Device profiles

If using a Notes client, open the STWAPADM.NSF database. If using a Web browser, point it to the following URL:

```
http://<your server name or IP address>/stwapadm.nsf
```

> **Important:** The STWAPADM.NSF database requires that you sign it with the server.id before it will work. Also sign the template STWAPADM.NTF.

Enter your user name and Internet password as required. If you are not listed in the Wireless Admin group, you will only see your personal User Profile.

As you open the Sametime Everyplace Administrator database and provide your login and Internet password, you will be presented the following screen (Figure 5-12).
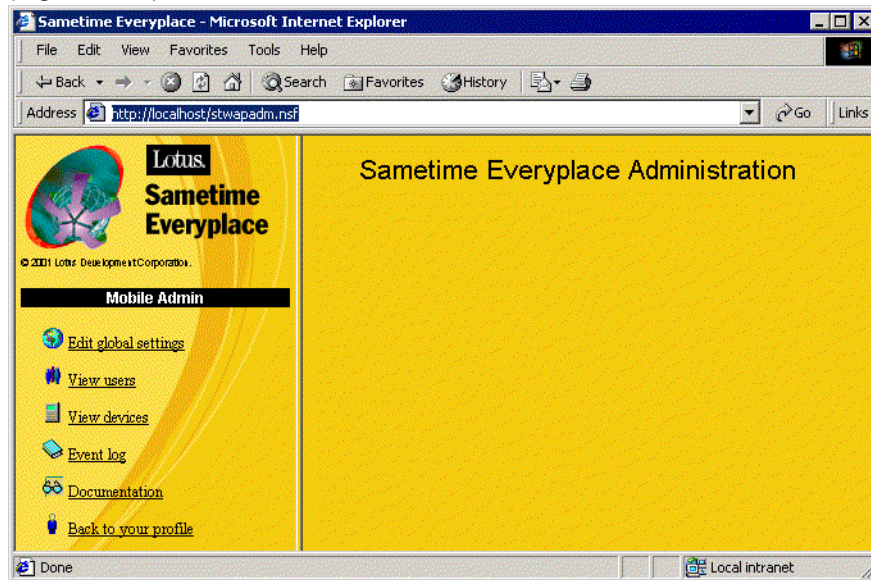
Figure 5-12   Sametime Everyplace Administration database's interface

5.4.1 Specifying global settings

The Global Settings screen allows you to set and maintain server information and default user settings. In the General settings section, you can indicate information about how users will access your Sametime Everyplace server, such as:

► The Sametime server name

► The Domino Everyplace SMS server name

► The URL link for the server

► Whether users need to specify a user name and password in the URL

► Whether the automatic log on feature is enabled

- ► The user name and password used to log on to Sametime
- ► The maximum number of log entries

Click on the link for Global Settings on the right frame to open the form shown in Figure 5-13.

Figure 5-13   Sametime Everyplace Administration database: Global settings

The form is rather self-explanatory. There are General settings and Default user settings.

General settings
These are related to the server.

Sametime server name (or IP address)
In the Sametime server name field, enter the URL or IP address so the Sametime server can be located by the network.

Sametime Everyplace Servername (or IP address)

In the Sametime Everyplace Servername field, enter the URL or IP address of the Sametime Everyplace server, so it can be located.

Home URL Link

In their mobile devices, users will have an option called "Go to Portal" that takes them to the configuration database. In the Home URL Link field, enter the Web address for this option.

Maximum Log Entries

Sametime Everyplace has an event log, where it can store information about its usage. In the Maximum Log Entries field, enter the maximum number of entries that can appear in the log. If you enter 0, no logging occurs.

Allow users to specify user name and password in the URL

Mobile users can authenticate themselves in the server either by sending surname and password in the URL as parameters or entering them in a logon form.

```
http://myServer/servlet/stwap?iusr=Blue Mobile&ipwd=myPassword
```

The default setting is **No**, which is the most secure. If you choose **Yes**, your users will be able to record their names and passwords in their bookmark URLs and will log on with a simple click on that bookmark. On the other hand, every person that gets hold of that user's mobile device will be able to log on with that user's identity.

Enable automatic logon

The automatic logon feature enables users to choose what hours of the day they want to be available through Sametime Everyplace. Then, the user does not need to explicitly log on to the server to appear in the Sametime online users list. During the specified hours, the user will appear in his colleagues' lists, with the indication that he or she is using a mobile device. The default setting is **No**.

Domino Everyplace SMS server

In the Domino Everyplace SMS server field, enter the server name or click the book icon to see a list of the available Domino servers in that Address Book (Figure 5-14). Then select the appropriate server.
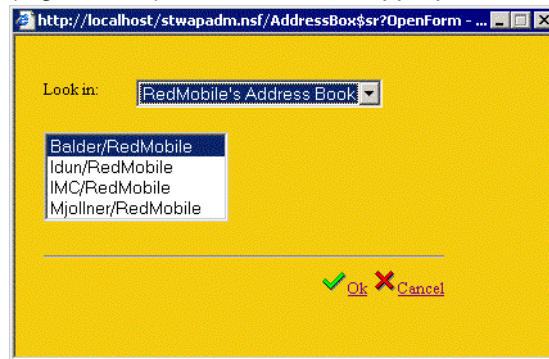
Figure 5-14   SMS Server selection screen

User name

Before you installed Sametime Everyplace, you should have created a user in your Sametime directory that will be used by Sametime Everyplace to log on into Sametime. In the User name field, enter the user name you chose while creating that user.

Sametime password

In the Sametime password field, enter the password for the user you created in Sametime, that is, the user you entered in the User name field.

Default user settings

These are related to the default user configuration. The users can later change their own configurations.

Chat window refresh rate

a. Indicates how often chat messages are refreshed. When in chat mode, the mobile devices will have to contact the server at regular intervals to update their windows. In the chat window refresh rate field, enter the number of seconds between each trip to the server. The default setting is 5 seconds.

Show automatic nicknames

Indicates how names of the Sametime users appear in the Sametime Everyplace user's Contact list. In the Show automatic nicknames field, click **Yes** to enable automatic nicknames or click **No** to show full names. The default setting is **Yes**.

Show online people only
In the Show online people only field, click **Yes** to show only those users who are currently online. Click **No** to display all users in the Contact list. The default setting is **No**.

Automatically log on
Enables the automatic log on feature. This feature allows users to set a schedule for logging into Sametime Everyplace. They can be logged on between start and end times for selected days during the week provided they are not logged on to Sametime from another client (for example, the Sametime Connect desktop client).

As you finish your settings, click the button **Save** on the top left of the form. You will be asked to restart the Domino http process to apply your changes (Figure 5-15).
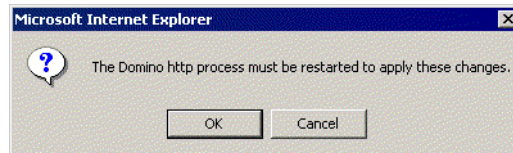
Figure 5-15   Domino http restart warning dialog

Click **OK**, then go to the Domino console window on your Sametime Everyplace server and type:

```
tell http restart
```

5.4.2 Maintaining users

You can view all current Sametime Everyplace users from the View users view in the Administrator's database. You can also add new user profiles, and delete or edit existing user profiles.

Viewing the list of users
Click the View users link in the left frame to view the list of current Sametime Everyplace users. The profiles are created by the Administrator or by the users themselves, when they log into Sametime Everyplace for the first time.
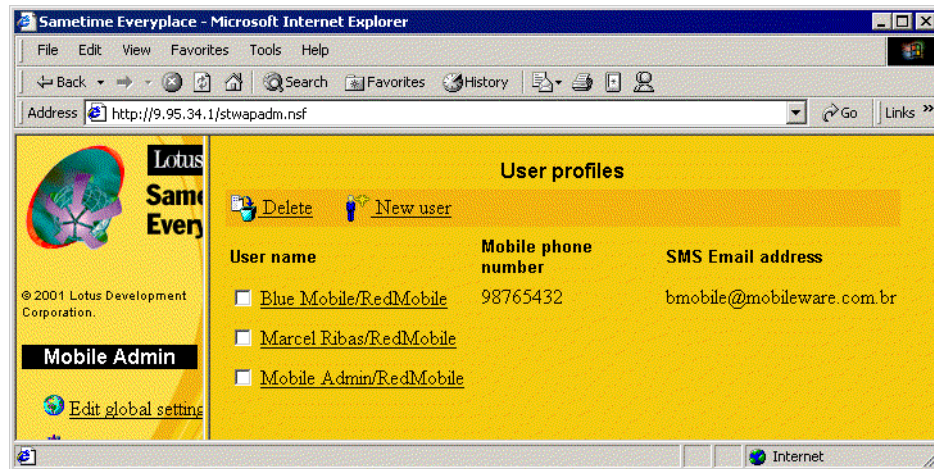
Figure 5-16   User profiles view

Adding a new user

To add a new user, click the New user profile link on the top left of the User profiles view (Figure 5-16). A blank User Profile appears, like the one shown in Figure 5-17 on page 137.
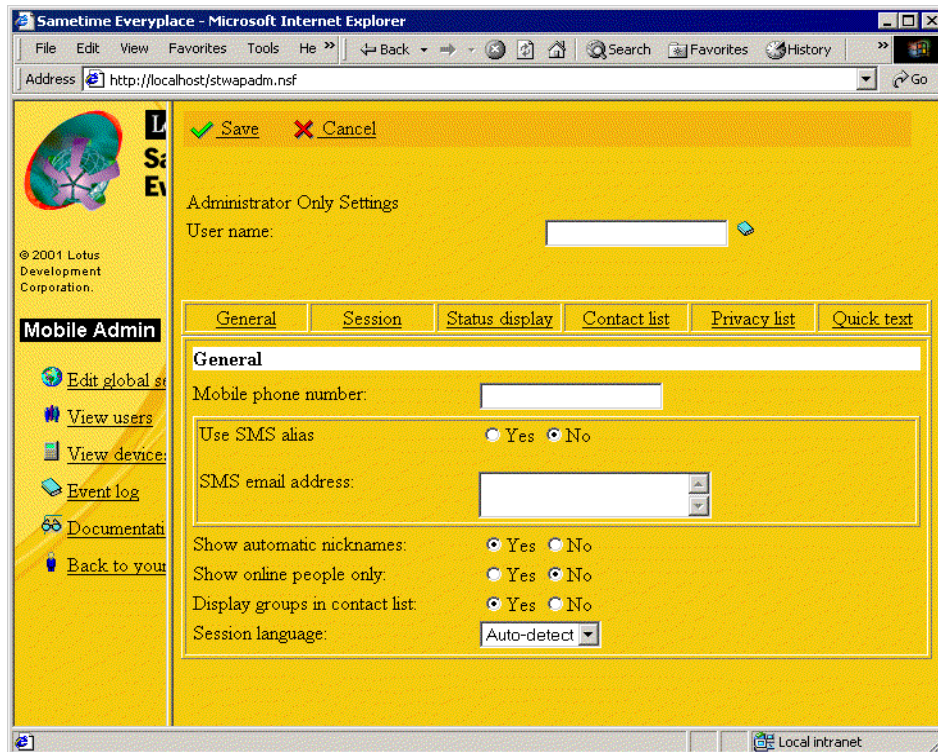
Figure 5-17   New user profile

User name

Enter the user name in the User name field, or click the book icon to choose it from the Sametime or Domino Directory. Note that if you want to create a new Sametime Everyplace user, you must first add this user to the Domino Directory, then create a profile for him here at the Sametime Everyplace administrator database.

This is the only configuration needed to add a new user profile. The administrator or the user himself can edit the user's profile later (see 5.4.6, "Editing your profile" on page 141).

Deleting users

In the User profiles view (Figure 5-16 on page 136), select the users you wish to delete by clicking the check boxes next to their names, then clicking the Delete link on the top left of the frame.

5.4.3 Viewing devices

Sametime Everyplace comes with a predefined list of mobile devices and their characteristics. You can add new devices to the list or change their settings.

In the Sametime Everyplace Administrator, click on the View devices link in the left frame to get to the Devices view (Figure 5-18).
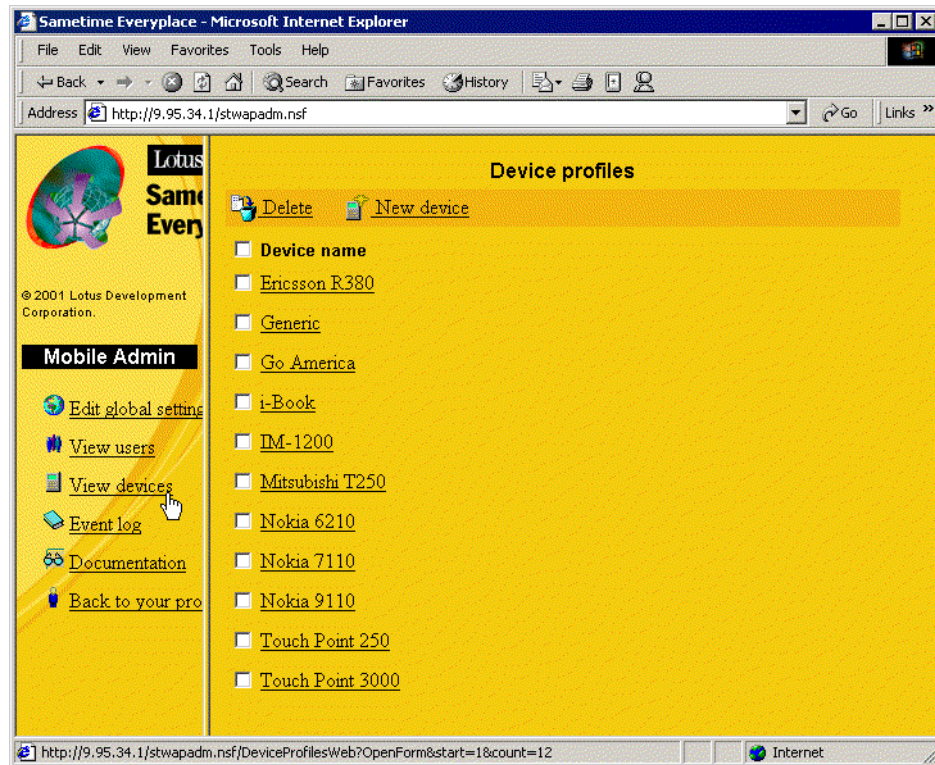
Figure 5-18   Devices view

Device profile settings

If you click the name of a device, you will be taken to the device configuration sheet (Figure 5-19 on page 139).
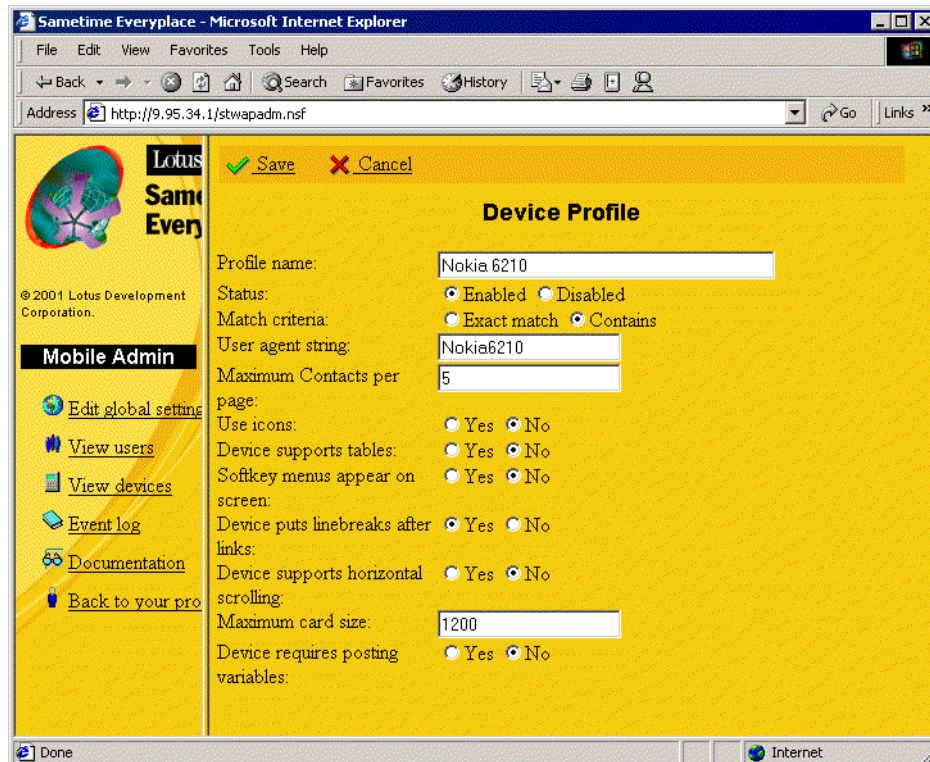
Figure 5-19 Device profile settings

Profile name
Choose a unique name for this device profile.

Status
You can enable or disable this profile.

Match criteria
Sametime Everyplace uses the User agent string sent by the mobile device to determine the type of the device. Sametime Everyplace compares the user agent string of the mobile device's micro-browser with the text you set in the field User agent string. You can select to either allow Sametime Everyplace to use this profile if the device's user agent string contains the text in the User agent string field, or to allow use of this profile only if it finds an exact match.

User agent string
The text that will be used to match the device's user agent string. Used in conjunction with the Match criteria field.

Maximum Contacts per page
Number of contacts that will appear in the same page in the mobile device's screen. That number varies, according to the device screen size.

Use icons
Select Yes to enable the use of icons in the mobile device's interface. If the device does not support icons, select No.

Device supports tables
Indicates if the device supports the use of tables. Select Yes if this is the case, or No otherwise.

Soft key menus appear on screen
Select Yes to display soft key prompts. If the device does not support soft key prompts, select No.

Device puts line breaks after links
Some devices automatically put line breaks after each link. Select Yes if this is the case, or No otherwise.

Device supports horizontal scrolling
Select Yes to allow text to scroll horizontally on the mobile device. If the device does not support horizontal scrolling, select No.

Maximum card size
The maximum size (in bytes) allowed for a WML card in the device.

Device requires posting variables
Enter Yes if posting variables are required for the device to get access to the server. Otherwise, click No.

Adding a new device
Select the View devices view, then click **New device**. It is a link on the top left of the view. Then fill in the fields according to the characteristics of the new device. The descriptions of the fields are in "Device profile settings" on page 138.

Deleting device profiles
On the Devices view, select the device profiles you want to delete, then click the **Delete** link on the top left of the view.

5.4.4 Viewing the event log

Sametime Everyplace allows the Administrator to see exactly what is happening with the users and with the server, with its own event log.

You can view the event log by clicking the **Event log** link on the left frame of the Sametime Everyplace Administrator's database. It will open the Event log Java applet, shown in Figure 5-20.
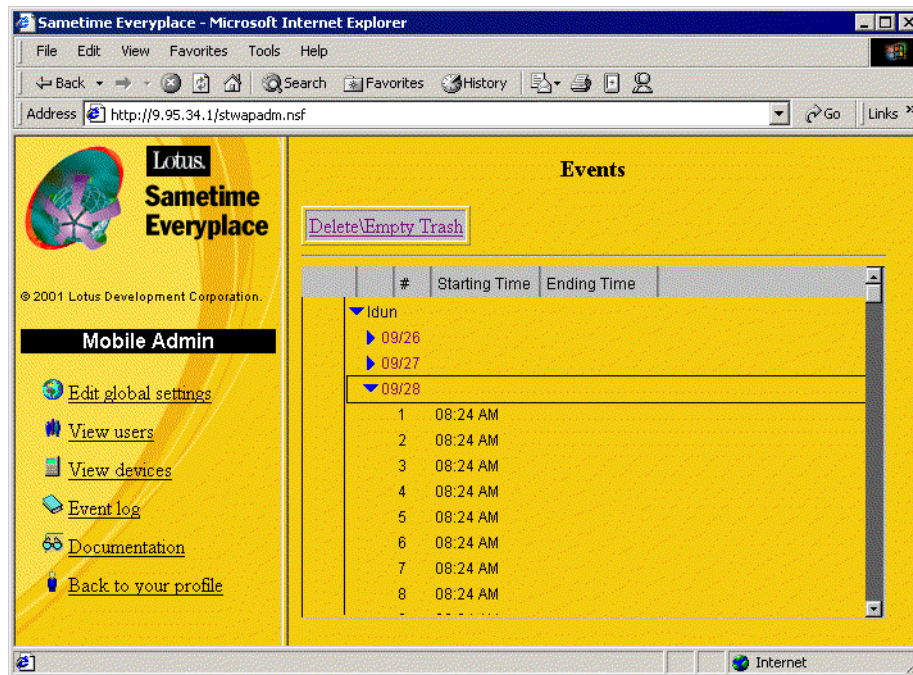
Figure 5-20   Sametime Everyplace's Event log

To view its details, just double-click one of the events listed.

5.4.5 Viewing the documentation

Sametime Everyplace has a very comprehensive user's guide in HTML format, which can be accessed by clicking the **Documentation** link in the right frame of the STWAPADM.NSF database.

5.4.6 Editing your profile

The User Profile allows you to set the parameters for how other users contact you and how information is presented in your mobile device. Each Sametime Everyplace user can access their user profile and change the settings by themselves. All you have to do is point your browser to the following URLs:

```
http://<your_server_address>/stwapadm.nsf
```

or

```
http://<your_server_address>/servlet/stwap
```

If accessed from a Web browser, both of them will take you to the Sametime
Everyplace Administrator's database. Of course if you are not an administrator,
you will only be able to edit your own profile. You will be presented the options
menu that Figure 5-21 shows.

Figure 5-21   Sametime Everyplace Web user interface

Click the Edit my profile link in the left frame to access your profile.

There are six sections in your User Profile:

► General
► Session
► Status display
► Contact list
► Privacy list
► Quick test

General tab

Contains general information, like your mobile device number and your preferred language. Click on the General link to see it.

Figure 5-22   User Profile General tab

Mobile phone number

In the Mobile phone number field, enter the number of your mobile device, assigned by the service provider.

Use SMS alias

Choose whether or not to use an SMS alias, created for you in Domino Everyplace SMS. Choose **Yes** only if you have Domino Everyplace SMS installed. If you do so, you will see a list of your aliases configured in Domino Everyplace SMS. Choose one of them by highlighting it. Choose **No** to enter your SMS e-mail address manually.

Show automatic nicknames

In the Show automatic nicknames field, you can modify the way that names appear in your Contact list. The default setting is controlled by the administrator. If you want to use nicknames, choose **Yes**. If you want to see the users' complete names, choose **No**.

Show online people only

Mobile devices have small screens. If your Contact list is too big, it may take too many screen scrolls to show it. In the field Show online people only, choose **Yes** to see only the users that are currently logged into Sametime, or choose **No** to see your whole Contact list.

Display groups in Contact list

As with Sametime, you can organize your contacts into groups. If you want to see them in groups in your mobile device, choose **Yes**. Otherwise, choose **No**.

Session language

You can choose from twelve languages or let Sametime Everyplace discover which is the device-preferred language. Choose the language or choose **Auto-detect** to adopt the language configured in your mobile device.

Session tab

This is where you can configure session-related information. Every time a user logs into Sametime Everyplace, a new session begins. You can configure time-outs, the automatic login feature, and status texts.

The Session tab includes three sub-tabs: Timeouts, Automatic Login and Status Text.
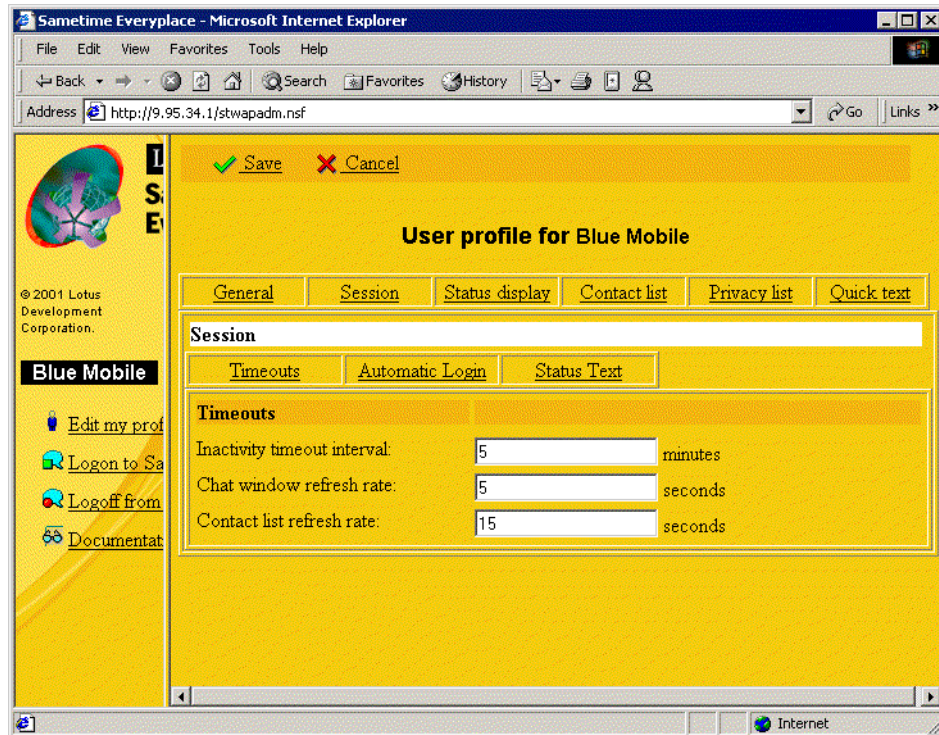
Figure 5-23   User Profile Session Tab: Timeouts

Timeouts

You can change the following timeouts (Figure 5-23):

▶ **Inactivity time-out interval**
   To save system resources, if there is no user activity, the user is automatically logged off. The default setting is 5 minutes.

▶ **Chat window refresh rate**
   Unlike the Sametime Connect desktop client, the mobile device uses a pull technology. That means that messages sent to a mobile user are not redirected to his mobile device unless the device asks for them. If you are engaged in a chat with your mobile device, from time to time your device sends a message to the Sametime Everyplace server and receives a response with all the new messages sent to you. In the Chat window refresh rate field, you can change the interval between these refresh messages. The default setting is 5 seconds.

► **Contact list refresh rate**
From time to time, the mobile device has to ask the server for a new list of online users and their statuses. This is the interval between each trip to the server. The default setting is 15 seconds.

Automatic Login

The automatic login feature allows you to set a schedule for logging in to Sametime Everyplace. You can be logged on between start and end times for selected days during the week, provided you are not logged on with the desktop client.

You can enable or disable the automatic login, and set the hours you intend to be available with your mobile device. Click on the Automatic Login tab (Figure 5-24).
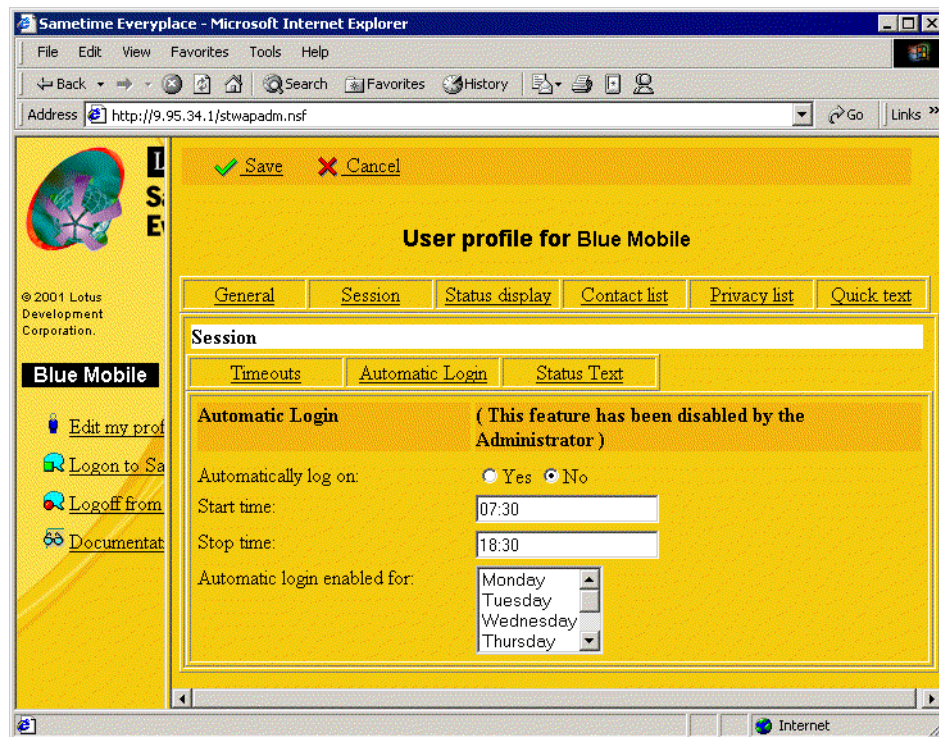
Figure 5-24   User Profile Session tab: Automatic Login

Restriction: You will only be able to use automatic login if your administrator enabled this feature on the server. Note that in Figure 5-24 the user is being warned about that.

You can choose the hours during the day, as well as the days of the week, on which you are available. To select more than one day in the list box, click the name of the day with the Ctrl key pressed.

Status Text

These are the messages that your Sametime colleagues receive when you are logged in. There are a number of different status messages for the mobile user. These statuses are grouped into three categories: Active, Away, and Do Not Disturb (DND). For each status, there are messages you can change.

► **Active**
  See Figure 5-25 for the Active status messages.
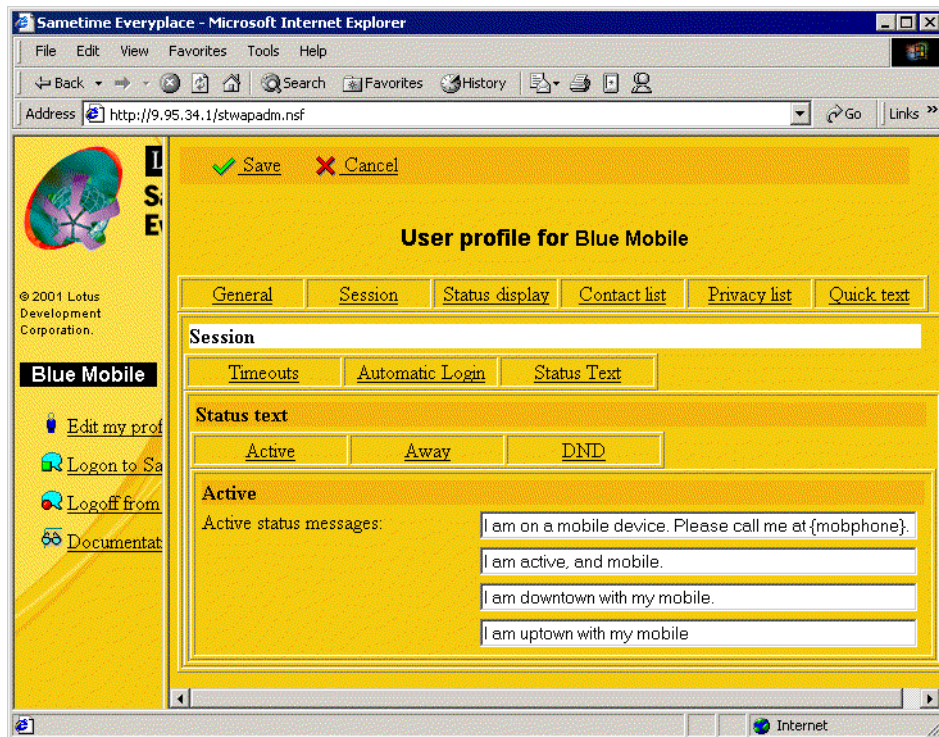
Figure 5-25   Active status messages

► **Away**

See Figure 5-26 for the Away status messages.
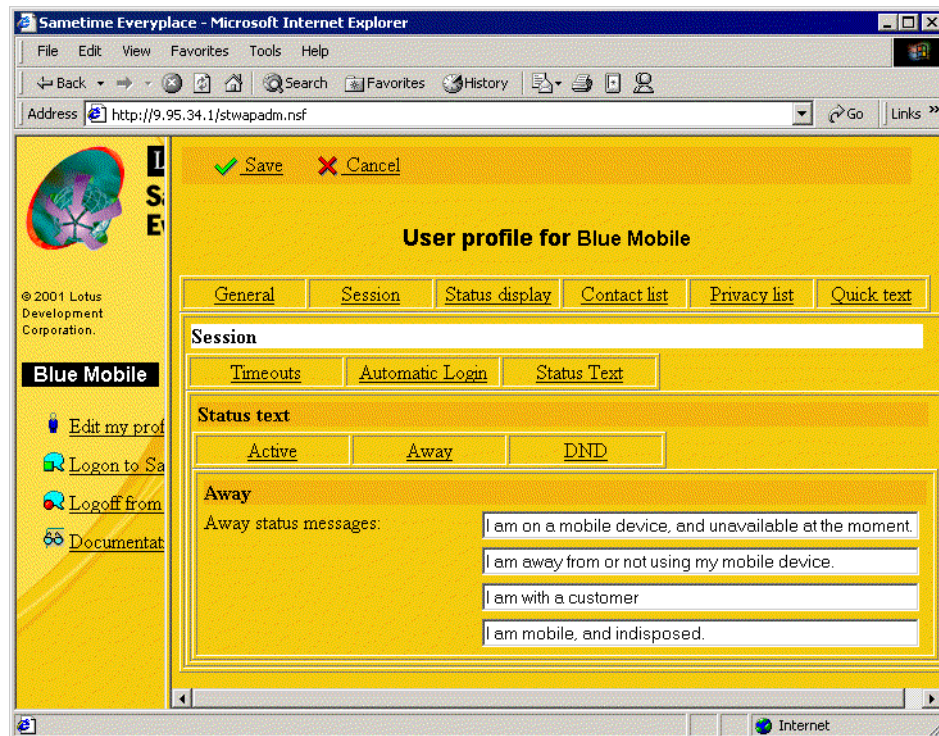
Figure 5-26   Away status messages

► **DND**
  See Figure 5-27 for the DND status messages

.
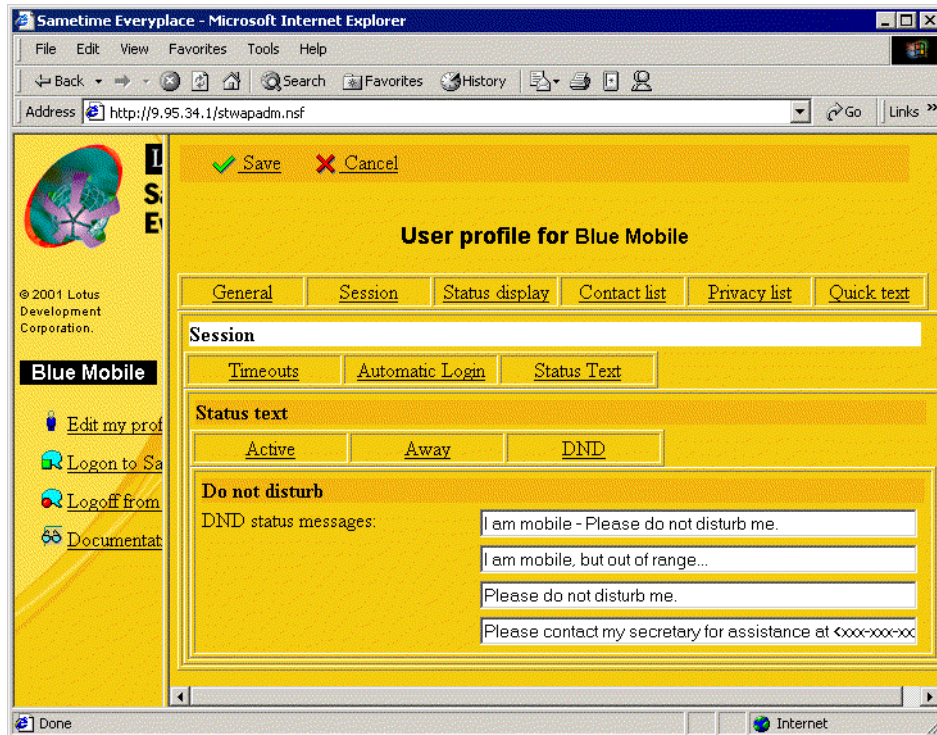
Figure 5-27   DND status messages

Status display tab

In the Sametime desktop client, you are able to know the status of your colleagues just by looking at the icons displayed next to their names. Some mobile devices do not support icons, so alphanumeric characters were chosen to represent your contacts' statuses.

If you want to change the way Sametime Everyplace translates its icons to characters, click on the Status display tab (Figure 5-28).
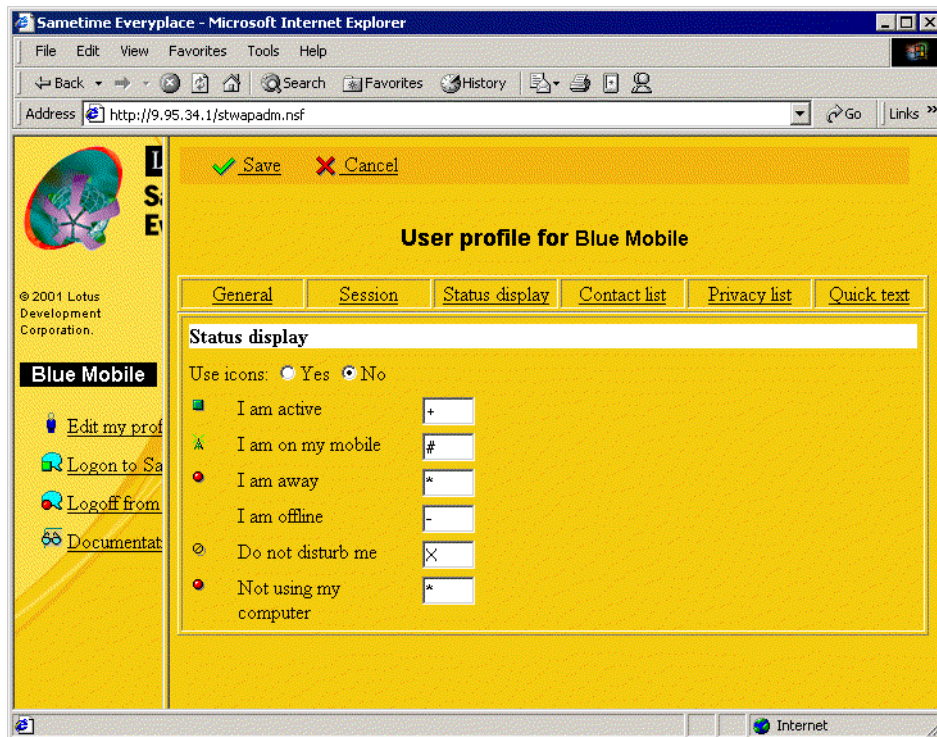
Figure 5-28   User Profile Status display tab

Contact list tab

The Contact list is the list of people who you want to contact online. Anyone you want to maintain contact with online must be a Sametime user and must be on your Contact list.

You can manage your Contact list from the applet in the Contact list tab. It is a lot easier to do it from the Web than to do it from the mobile device. You can add contacts or remove them, sort the list, and retrieve it from your Connect client.

The Contact list is, in fact, a Java applet. It may take a while to appear on computers with slow network connections. It is shown in Figure 5-29 on page 151.
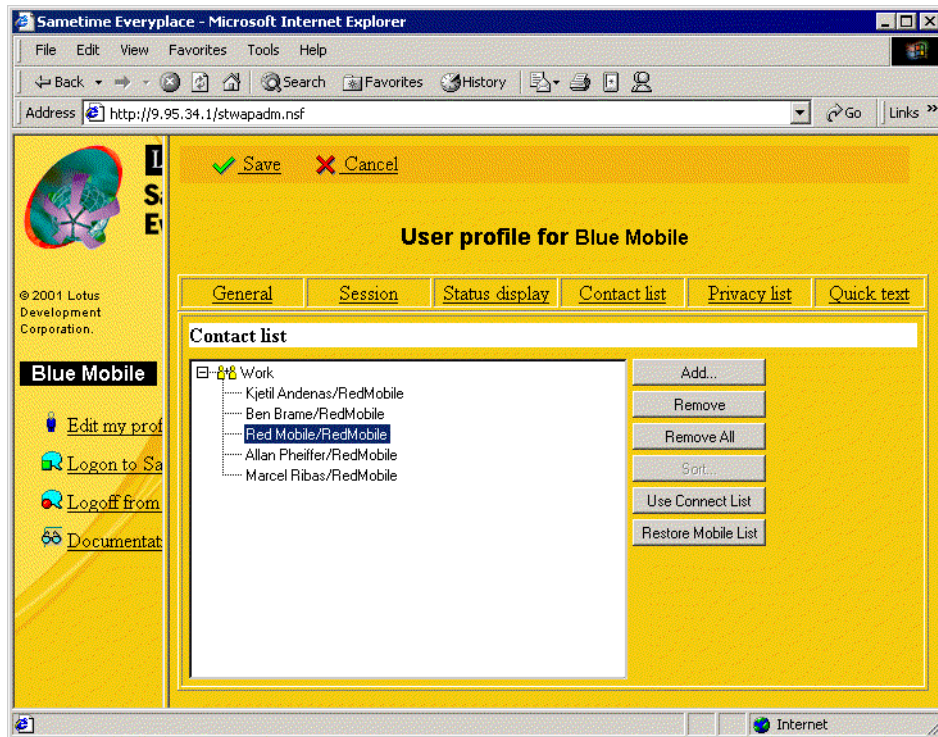
Figure 5-29   Contact list tab

Use the buttons on the right to maintain your Contact list:

▶ **Add**
   To add a new user to your Contact list. When you click this button, you will be
   presented with the dialog shown in Figure 5-30.
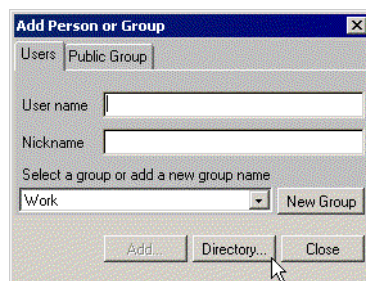
Figure 5-30   Add Person or Group dialog box

You can type in the name of the user or search for him in the Sametime directory, clicking the **Directory** button(Figure 5-30). You can also choose an existent group or even create a new one for this contact.

If you click the **Directory** button, you will be able to look for the user in the Sametime directory, as shown in Figure 5-31.

Figure 5-31   Add to Who Can See Me List dialog box

Choose each user you want in your Contact list and click **Add**. They will appear in the Contact list applet automatically.

▶ **Remove**
To remove the selected user from your Contact list.

▶ **Remove All**
To clear your Contact list.

▶ **Sort**
To sort the user names on your Contact list.

▶ **Use Connect List**
To use the same Contact list as Sametime Connect.

▶ **Restore Mobile List**
If you clicked the Use Connect List, you may want to go back to an independent Mobile List.

To change the way a user's name appears to you, right click the user's name in the Contact list applet. You should see a context menu like the one in Figure 5-32.
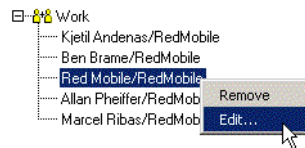
Figure 5-32   Contact list context menu

Figure 5-33 shows the Edit Person dialog, where you can enter a nickname for this user and change the group he belongs to.
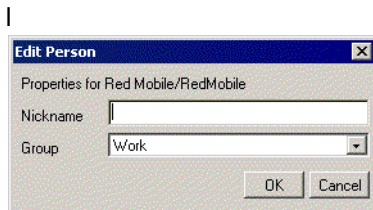
Figure 5-33   Edit Person dialog box

Privacy list tab

In this tab you can choose the level of privacy you need. Click the arrow in the drop-down list, as shown in Figure 5-34 on page 154.
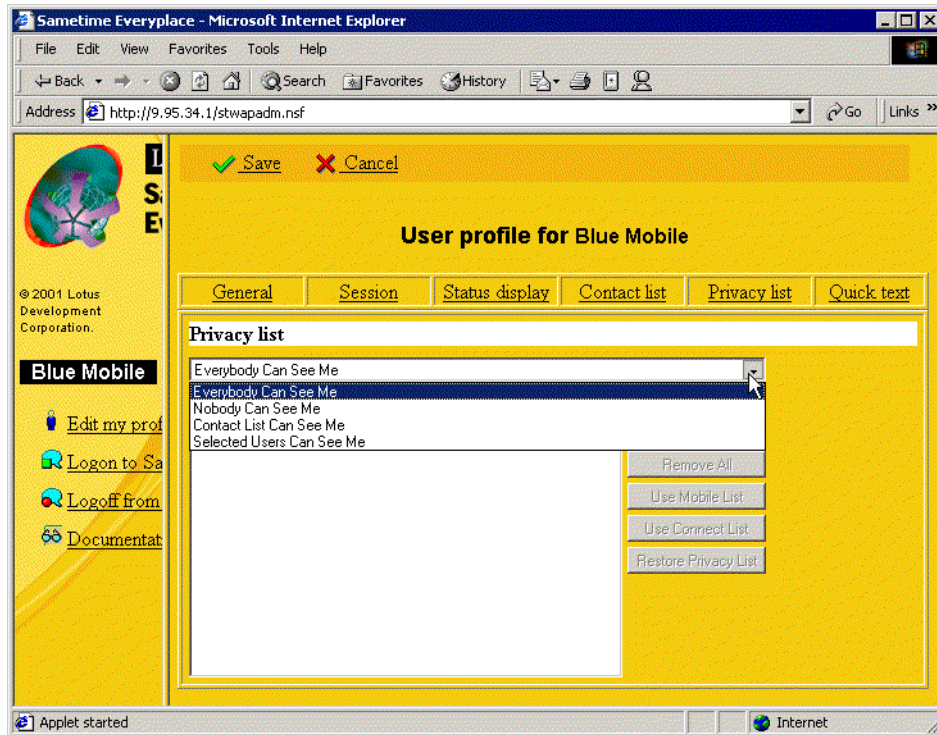
Figure 5-34   Privacy List tab

There are four options for privacy:

► Everybody Can See Me: No restrictions on who can know when you are online.

► Nobody Can See Me: You want to be able to reach other people, but do not wish to be contacted.

► Contact List Can See Me: Only the users that you added to your Contact list will be able to know when you are online.

► Selected Users Can See Me: You can manually select the users you want to know when you are online.

You will then see a Java applet similar to the Contact list (see "Contact list tab" on page 150). The buttons are a little different, though (see Figure 5-35 on page 155).
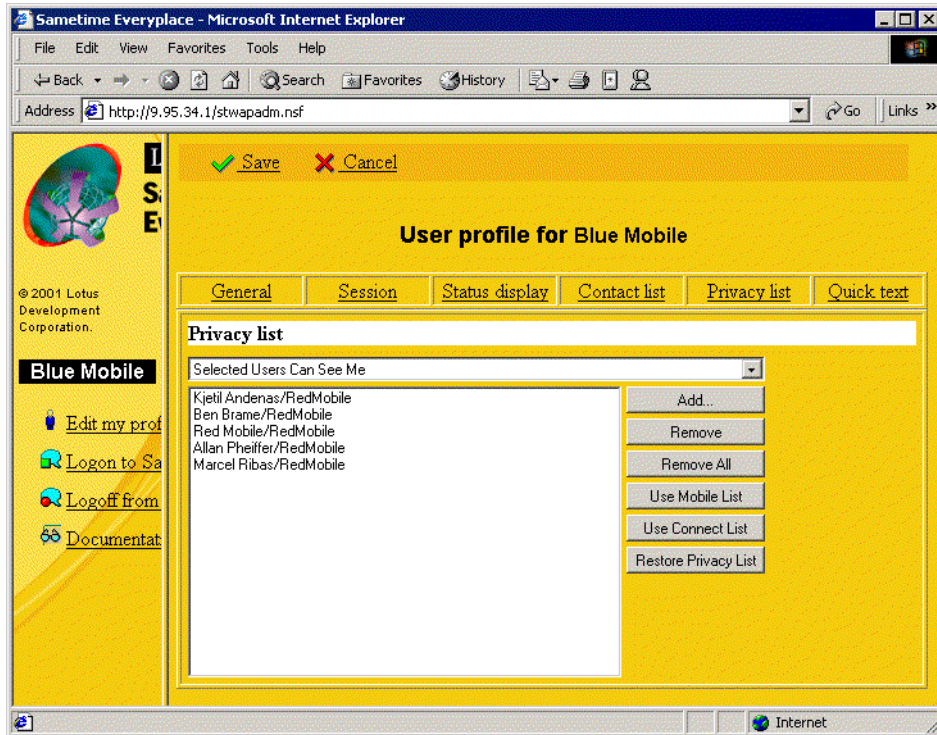
Figure 5-35   Privacy list: Selected Users Can See Me

Click one of the buttons on the right to maintain your Privacy List:

► Add: Add a person to your Privacy List.

► Remove: Remove the selected contact.

► Remove All: Clear your Privacy List.

► Use Mobile List: Fill your Privacy List with the members of your Contact List.

► Use Connect List: Click this button to fill the list with contacts from Sametime.

► Restore Privacy List: If you made unwanted changes in the list, you can click this button to turn it back to what it was before.

Quick text tab

This is probably the most exciting feature of Sametime Everyplace: the Quick Text. Since typing in tiny mobile devices is not as smooth as we would like it to be, Sametime Everyplace provides you some predefined text messages. From your mobile phone, with one or two clicks you can select one of these messages.

You can set up to 10 quick text messages. To set them up, click the Quick Text tab on your User Profile. The default messages are shown in Figure 5-36.

Figure 5-36   User Profile: Quick Text tab

Note that you can change both the Quick Text option and the Full message text.

This is all you need to configure your User Profile through a Web browser.

5.5 Using Sametime Everyplace

The Sametime user will find himself at home when trying the mobile version, although the experience of a mobile application is completely different. Most WAP devices do not have sophisticated input devices. But the concepts of awareness and instant messaging from Sametime are the same.

The Sametime desktop client makes use of different colors and icons to show current user status. Most of the WAP browsers on the market today do not support colors and small icons, so Sametime Everyplace's mobile interface was built with that in mind. Sametime Everyplace's mobile client has all the desktop client awareness features, but uses only text.

5.5.1 Sametime Connect desktop client

Users on their desktops will notice a difference between an online desktop user and an online mobile user. The desktop user appears with a square right beside the user's name on your Contact list. The mobile user appears with an antenna icon, as shown in Figure 5-37.
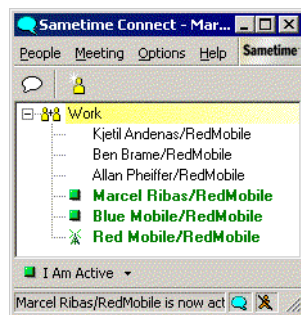
Figure 5-37   Sametime Connect view of online users

5.5.2 Connecting to the server

Logging on to Sametime Everyplace from your mobile device is just like accessing a WAP site. You have to enter the URL of the server, which is:

```
http://<IP_address_of_your_server>/servlet/stwap
```

The majority of mobile WAP-enabled devices are cellular phones. Cellular phone input devices are usually nothing but a 12-key telephone keyboard and a couple of control buttons. This makes it very difficult to enter text, even short URLs.

WAP 1.1 browsers have the capacity of storing bookmarks. Instruct your users to enter the URL as a bookmark to provide a shortcut for logging on to Sametime. Some providers offer a Favorites service, where users can store their bookmarks at a provider server, instead of saving them in the mobile phone. That makes it even easier to set up bookmarks, because users can do it from a Web browser on their desktops.

Welcome screen

The user interface will appear slightly different from device to device, depending on the screen size of the user's mobile device.

Mobile phones comprise the majority of WAP-enabled devices. Those that are WAP 1.1-compliant are capable of using Sametime Everyplace.

When the user logs on to Sametime Everyplace, he is presented with a welcome screen (a splash screen) that can contain either just text or text and graphics. Whether the user will see graphics as well as text depends on the mobile device characteristics and configurations.
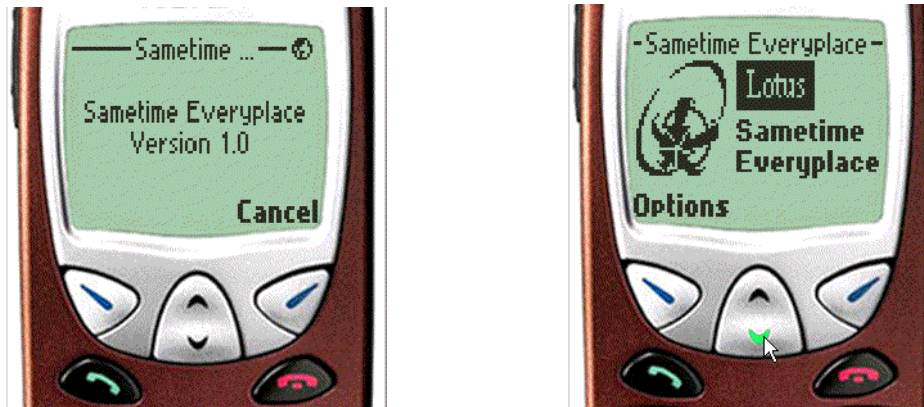
Figure 5-38   Sametime Everyplace splash screens

Logon screen

The logon screen appears if the user does not provide his user name and password in the URL used to access Sametime Everyplace. The administrator can enable this feature to provide quick access to Sametime Everyplace. But if the administrator did not enable it, the user will need to enter his credentials.

Most mobile devices will not be able to present Sametime Everyplace screens in their entirety, so you will have to scroll the screen to fill in the fields or to see all the information. Figure 5-39 shows the sequence of a user logon. You have to select the fields to edit them.
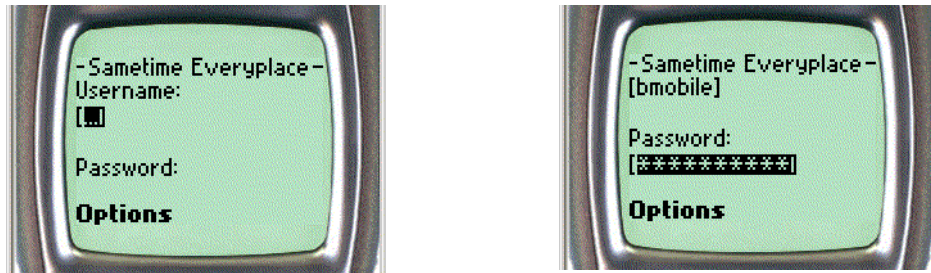
Figure 5-39   User logon sequence

After filling in the User name and Password fields, you have to scroll down the page to select the **Login** button.

Figure 5-40   Login button

The logon request travels through the network and finds the Sametime Everyplace server, which logs into Sametime to validate the user. Meanwhile, it sends a message to the mobile user (Figure 5-41).
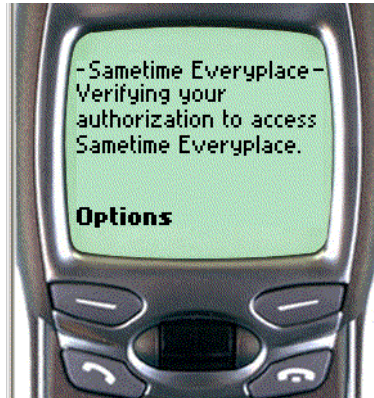
Figure 5-41   Verifying authorization screen

After a short time, the user is authorized (or not) to use Sametime Everyplace. If the credentials are valid, you will be presented with your list of contacts, unless it is the first time you are logging in and you do not have a user profile yet.

Creation of a User Profile

A User Profile is created the first time a user logs into Sametime Everyplace from a mobile device, if this User Profile was not created previously by the Administrator.

A User Profile contains the user's phone number and the language to be used on the mobile device, among other things. If a user logs into Sametime Everyplace with his mobile device and he does not have a User Profile yet, he will be prompted for his telephone number, language, and to add a person or group to his Contact List.

You will first be asked for your mobile phone number and preferred language (Figure 5-42).

Figure 5-42   User profile creation screen: Phone number and preferred language

You can either let Sametime Everyplace detect the language in your mobile device (this option is not available on some devices), or choose a language of your preference. The default setting is **Auto-detect**, but you can choose from Danish, Dutch, English, Finnish, French, German, Italian, Korean, Norwegian, Portuguese, Spanish and Swedish (Figure 5-43).

Figure 5-43   Language selection screen

Adding users to the Contact list

After supplying your phone number and preferred language, you will be directed to the Contact list in order to add users to it (Figure 5-44). That will not be necessary if you are already a Sametime user because you will have your Contact list on the Sametime server.

Figure 5-44   Add users to Contact list

You will have to type in the names of people or groups you need in your Contact list. Type the first or last name of the user you want, and Sametime Everyplace will search for all the matches and present them to you.

> **Note:** You do not need to enter all your contacts now using your mobile device. Even if you are a brand-new user, you can add your contacts later using the Web browser interface in your desktop computer.

Type in the first or last name of the person you want to search for and click **Add**, as shown in Figure 5-45.

Figure 5-45   Add button

Sametime Everyplace will search in the Sametime directory and will return a list of possible matches (Figure 5-46).

Figure 5-46   Search results

Choose the user you want to add to your Contact list by selecting the name.

The last step is to choose in which personal group this added user will be located.

Figure 5-47   Group selection screen

Choose the group you want to put this user in by selecting the group's name.

The new user is added to your Contact list and you will receive a confirmation screen (Figure 5-48).

Figure 5-48   Add user confirmation screen

Click **Add** to continue adding users, or click **Done** to finish.

5.5.3 Viewing the list of online users

As soon as you log into Sametime Everyplace with your mobile device, you will be directed to your Contact list. Figure 5-49 shows an example of a Sametime Everyplace user's interface.

Figure 5-49   Contact List on a mobile device

Note the symbols (characters) used to indicate the users' statuses. Their meanings are shown in Figure 5-28.

Navigating through your Contacts list

Each mobile device has its own way of navigating through a list of options or screens that are too long. Some devices have navigation buttons (up and down), some of them have rocking wheels, some have a joystick, and some even have touch-sensitive screens.

Your Contacts list will show a certain number of contacts at one time. This number can be set through the Web interface or through the mobile device itself. Below the list of contacts, you will see the following options:

▶ Refresh: Forces a new list of online users to be fetched from the server.

▶ All groups: Allows you to see a list of Groups (personal groups) and choose one of them.

▶ Next or Previous (or both): Depending on your position on the Contacts list, you will be able to go to the next or the previous screen of Contacts. If you are at the beginning of the list, you will only see the Next option. If you are at the end of the Contacts list, you will see only the Previous option.

Figure 5-50 on page 165 shows an example of these options in a Contacts List.
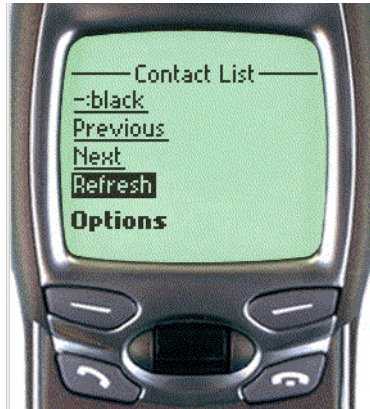
Figure 5-50   Contact list navigation options

5.5.4 Contacting other users

You have different options for contacting users; these options depend on the user's current status.

Contacting online users

If you select an online user, you will be presented the following options:

► Chat
► Request call
► Nickname
► Move
► Remove

Figure 5-51 shows an example of the options available when you select an online user.

Figure 5-51   Contacting an online user

Chat
Allows you to engage in a chat with your selected contact.

Request call
Allows you to request a phone call from that selected contact. Your contact receives, on his mobile or desktop client, the following message: `I am on a mobile phone. Please call me as soon as possible on <the mobile phone number provided in your profile>. Thank you.`

Nickname
Allows you to change the way the contact's name is displayed on your mobile device.

Move
Allows you to move the user between your personal groups.

Remove
Allows you to remove the selected contact's name from your Contacts list.

Contacting offline users
If you select an offline user, you will be able to send him an e-mail, change his nickname, move him between groups, and remove him from your Contacts list.

Figure 5-52 on page 167 shows the options available when selecting an offline user.

Figure 5-52   Contacting an offline user

If you select a user and then change your mind about calling him, on your mobile device select **Options**, then **Contacts** to go back to the Contacts list.

Send mail

Select this option to send the offline user a message. You have two options: Custom text or Quick text. Figure 5-53 shows how to switch between the two.

Figure 5-53   Mail text type selection

Select the type first, then choose one of them in the list presented to you. Choose Custom text if you want to type the message by yourself, or choose Quick text if you want to use one of the 10 predefined text messages. To view a list of the default predefined messages or to learn how to change them, see "Quick text tab" on page 155.

Nickname

Select this option to change the way the user name appears in your Contact list. You can enter any name of your preference.

Move

Select this option to move the user from the Group he is in to another one. You can also create new groups during this operation.

Remove

Select this option to remove the user from your Contacts list.

If you select one of these options and then change your mind, on your mobile device select **Options**, then **Back** to go back to the previous screen.

5.5.5 Chat

To start a chat session, select a person from the Contact list, and then, from the online user's option list, select Chat. You will see on your mobile device a screen similar to the one in Figure 5-54, with a field to be filled with the text you wish to send to the selected contact.

Figure 5-54   Sametime Everyplace User Chat screen

Type in the text and then select **Send**. If the person responds, his message appears on the next chat screen refresh.

Chat options

There are several options available in a Sametime Everyplace Chat. Click **Options** to view them, as shown in Figure 5-55 on page 169.

Figure 5-55   User chat options list

Review
Allows you to redisplay previous messages.

Quick Text
Allows you to choose from 10 predefined text messages. To view a list of the default messages or learn how to change them, go to "Quick text tab" on page 155.

Invite
Allows you to send invitations to other people to join the chat.

Close
Allows you to end the chat.

Close and save
Ends the chat and sends a copy of the chat session to your e-mail.

5.5.6 Menu options

Sametime Everyplace offers several configuration options. These can be accessed by choosing **Menu** in the Options list.

On most mobile devices, you should see an Options button or soft key right below your Sametime Everyplace screen. Clicking that button will take you to the mobile device options. Select the **Options** button and then scroll until you find a Menu option. Select it, as shown in Figure 5-56.

Figure 5-56   Accessing Sametime Everyplace Menu

You will then be presented with the following functions, shown in Figure 5-57:

▶ My status
▶ Add
▶ Display
▶ My profile
▶ Log off
▶ Go to portal
▶ About

Scroll the device page to choose between these options.

Figure 5-57   Sametime Everyplace Menu

My Status

You can change your status, choosing from the following options:

► "I am active" means you are ready to chat.

► "I am away" means you are online but unable to chat (for example, if you are driving or on the phone).

► "Do not disturb me" means you do not wish to be contacted.

The message you select will be sent to other users if they want to initiate a session with you.

Add

Allows you to add contacts to your Contact list. This procedure is described in the section "Adding users to the Contact list" on page 162.

Display

You have the following display options:

► Online only: Choose Yes if you want to view only online users, or No to view your entire Contacts List.

► Groups: Choose Yes to view your contacts organized in groups, or No to view them in a single list.

► Full name: Choose Yes to view your contacts' full names, or No to view their nicknames.

► Language: Choose your preferred language.

► Status refresh: Choose the interval (in seconds) between each refresh of your contacts' statuses.

► Chat refresh: Choose the interval (in seconds) between each refresh of your chat screen.

► Status symbols: Choose the symbols (characters) used to indicate users' statuses.

► Contacts: Choose this option to go back to your Contacts list.

Figure 5-58 shows an example of the Display options.

Figure 5-58   Sametime Everyplace Display Menu

My Profile

See Section 5.5.7, "Maintaining your user profile" on page 173 for detailed information about this option.

Log Off

Allows you to log off from Sametime Everyplace.

Go to portal

Takes you to the home page for Sametime Everyplace. This home URL was set by the Administrator in the Global Settings section of the Sametime Everyplace Administrator Database. To find out how this home page is set, go to 5.4.1, "Specifying global settings" on page 131.

About

Shows Sametime Everyplace's splash screen, with the logo (if the mobile device supports graphics) and the software version number.

5.5.7 Maintaining your user profile

Although the best way to make changes to a user profile is through a Web browser interface, mobile users can access their profiles and change the settings from wherever they are.

To access your user profile from your mobile device, click **Options**, then select **My Profile**. You will be able to configure the following:

► Phone number: Allows you to change your mobile phone number.

► SMS address: Allows you to change your SMS address, to be reached by SMS messages.

► Auto logon: Turns on or off automatic logon. (It requires the Administrator to enable it on a server basis.)

► Inactivity timeout: Sets a time (in minutes), and if this time runs out with no user activity, the user is automatically logged off Sametime Everyplace.

► Who can see me: Works as your Privacy List described in "Privacy list tab" on page 153.

Figure 5-59 shows how the My Profile list of options should look.

Figure 5-59   Sametime Everyplace My Profile Menu

Select **Contacts** to go back to your Contacts list.

5.6 Summary

Sametime Everyplace sits on top of a Domino server and a Sametime 2.0 (or higher) server. It is, in fact, a servlet application that can receive requests from WAP browsers and pass them to the Sametime server. Once it gets the responses from Sametime, it serves WML content to the mobile devices.

It enables users with mobile devices like cellular phones to send and receive instant messages to their contacts, who can be either other mobile users or desktop Sametime users. It enables users to have awareness capabilities on their desktops and on the go.

In this chapter we discussed Sametime characteristics and how to implement a simple and effective Sametime Everyplace solution in your enterprise.

Domino Everyplace SMS

Domino Everyplace SMS allows Notes users to communicate directly with one- and two-way wireless devices worldwide by using Short Messaging Service (SMS) technology.

This chapter provides the basic information to use Domino Everyplace SMS in your environment. We discuss how you can extend your production mail databases and custom applications to reach mobile users with SMS-enabled devices.

We also describe how you can integrate Domino Everyplace SMS with Sametime Everyplace to build a complete and cost-effective solution.

In this chapter, the following topics are discussed:

► How to install Domino Everyplace SMS

► How to configure Domino Everyplace SMS

► How to validate your Domino Everyplace SMS installation

6.1 How Domino Everyplace SMS works

Domino Everyplace SMS provides a central administrative interface to one or more wireless data services and mobile devices. It is integrated with Domino's messaging and routing services, enabling Notes and Domino users and applications to send messages to and receive messages from interactive mobile and wireless data devices as if they were sending messages to other Notes users.

It supports a variety of protocols, like TAP, SNPP and SMTP, so it is capable of integrating with most service providers. Domino Everyplace SMS automatically converts messages into and from the appropriate formats used by the carriers, so that the Notes messages can be viewed in mobile devices and vice versa.

6.2 What you can do with Domino Everyplace SMS

With Domino Everyplace SMS, Notes users can:

► Send messages directly to a mobile device from Notes mail or any Notes/Domino application

► Send messages from a two-way device to Notes mail or a Notes application

► Control the length and formatting of messages received on a mobile device

► Receive data that exceeds the device limitations

► Receive reports of the status of messages

► Address and send messages to a mobile device's personal identification number (PIN) or the device owner's name

► Easily manage users who have multiple devices

We now describe some of the unique features of Domino Everyplace SMS.

6.2.1 Domino Everyplace SMS features

Domino Everyplace SMS 2.0 enables the communication between Domino applications and mobile devices. Following are brief descriptions of the main Domino Everyplace SMS features.

Wireless data protocol support
Domino Everyplace SMS supports a broad range of standard protocols for the exchange of messages with most wireless data services, such as:

► Telocator Alphanumeric Paging (TAP) protocol

- ▶ Simple Network Paging Protocol (SNPP)

- ▶ Global System for Mobile Communications GSM0705 protocol, the DTE-DCE interface for short messaging services (SMS) and the Cellular Broadcast Service (CBS)

- ▶ Universal Computer Protocol/External Machine Interface (UCP/EMI)

- ▶ Telocator Message Entry Extension (TMEX) protocol

- ▶ Simple Mail Transfer Protocol (SMTP)

- ▶ Protocols to deliver messages through multiple service providers including SkyTel, AT&T, American Paging, PageMart and PageNet

It also supports dial-up, X-25, and TCP/IP-based connectivity.

Network support
Domino Everyplace SMS works with major cellular phone networks (GSM, TDMA,CDMA, iDEN, etc.) as well as major paging and wireless packet data networks such as Flex/ReFlex, Mobitex, DataPac, ERMES and CDPD.

Mobile device support
You can use any device, from simple one-way pagers to handheld computers, as long as the device supports any of the protocols mentioned previously.

Centralized administration
Domino Everyplace SMS provides centralized administration to configure the server, modems, and users. It also allows you to record events and to manage all the wireless services that your organization subscribes to.

User support
Users can compose and send messages to any mobile device without knowing its Personal Identification Number (PIN) or wireless data service. Domino Everyplace SMS automatically converts the message format, connects to the wireless service, and sends the message. Mobile device users can configure Domino Everyplace SMS to remove unneeded components of incoming messages, apply abbreviations to incoming text, and specify days and times when they can be reached via their mobile devices. Users can also set up automatic replies to incoming messages on their behalf when they are not available.

Web access
You can create a Domino-based Web site to enable people without Notes clients to contact mobile users.

6.3 Architecture of Domino Everyplace SMS

The Domino Everyplace SMS architecture comprises certain entities that represent the aspects of its integration with SMS providers. Domino Everyplace SMS itself is a *gateway*, an interface between Notes and Sametime Everyplace and third-party SMS systems.

6.3.1 Domino Everyplace SMS configuration documents

There are five basic entities that correlate in Domino Everyplace SMS to enable the communication between Notes applications and SMS systems:

- ► Gateway
- ► Service
- ► Connection
- ► Device
- ► Port

Each entity represents an aspect of the integration between Domino Everyplace SMS, the mobile users, and the service providers, and has its specific role. Furthermore, for each one of them there is a configuration document in the Domino Everyplace SMS Configuration database. For that reason, it is extremely important that you understand these entities and their functions before you move on to the configuration of Domino Everyplace SMS.

Gateway

The *gateway* represents the Notes server where Domino Everyplace SMS is installed. Its configuration document has general settings, like the name of its mail database, events to be logged, abbreviations, and so forth. There is only one gateway document per server.

Service

Each *service* represents a different service provider. There is no limit on the number of services that can be configured in a single Domino Everyplace SMS server; your organization can have contracts with any number of carriers. The service configuration has information such as the service's name and specific mail file.

Connection

There are a number of different communication protocols used by service providers and supported by Domino Everyplace SMS. That communication can be done through the Internet or through a private line. It can be either a dedicated line or a dial-up line.

You have to set up at least one communication method, i.e., a *connection*, with each service, but you are not limited to that. We can easily imagine a situation where a service provider can provide you with more than one means of communication, for instance, a direct Internet connection and a dial-up line for backup reasons. In the Domino Everyplace SMS configuration, this situation would require two different *connections* for a single *service.*

The connection configuration is probably the most important of them all, because it has the most sensitive information, such as the network protocol used, the authentication involved, the network port, and so forth.

Device

Each actual mobile device will have a *device* document to represent it in the Domino Everyplace SMS configuration. It is based on the information in the device document that Domino Everyplace SMS will resolve the user's mobile alias and be able to format messages in an appropriate way for that device.

The device document is where you configure the content you wish to receive as SMS, the hours and days you are available to Domino Everyplace SMS, as well as other personal information. You can have any number of device documents, but you need at least one for each mobile user you have in your organization. And if a single user has more than one mobile device, then you will have more than one device document for that user.

Port

A *port* defines a path for the flow of communication. There are network ports (referred to as LAN ports), modem ports (referred to as COM ports), and WAN ports (which support X.25 communication). You can have up to 128 ports total. Each port enables one MSDRTR.exe instance, that is, you get one dedicated Domino Everyplace SMS router per port.

A port has to be created before a connection can be defined. LAN ports are fairly simple to configure, but COM ports require more parameters, such as baud rate, data bits, stop bits, parity, etc.
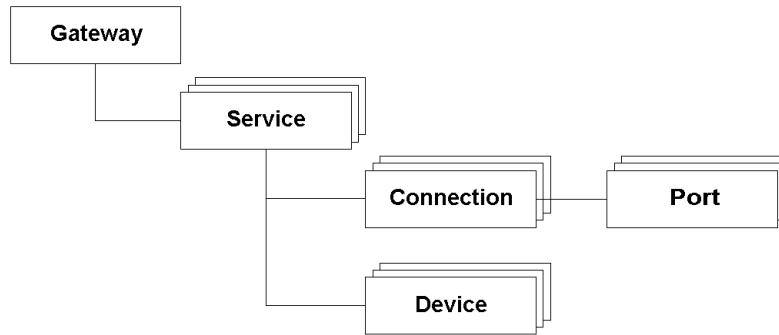
Figure 6-1   Domino Everyplace SMS configuration structure

Figure 6-1 shows how the objects inside the Domino Everyplace SMS configuration work together. A gateway (server) has a number of services. Initially you will have only one gateway in your configuration. That is why the gateway is represented with a single block. But the service entity is represented by a group of blocks, meaning that there can be any number of them related to a gateway.

For each service, there can be several connections as well as several devices. And finally, every connection needs a port.

> **Tip:** You might want to create three identical LAN connections, each pointing at the same provider/ipaddress, in order to use three separate routers to fire messages at the provider. This configuration will push almost three times the LAN traffic in a given time, provided the wireless carrier has enough bandwidth on its end.

Other configuration documents

Although changes in these other documents are not particularly necessary for all configurations, there are also configuration documents for modems and protocols. Refer to the *SMS Admin Guide* database that is installed with the product for more information.

6.3.2 Message routing

Domino Everyplace SMS works as a gateway between Domino and SMS systems. We can say that essentially it is a message router. It has two basic configurations: single domain mode and multiple domain mode.

Single domain mode

In the single domain mode, you use a single Domino Foreign Domain for all the messages that are sent to mobile users. Domino Everyplace SMS routes every message that enters its Foreign Domain router mailbox.
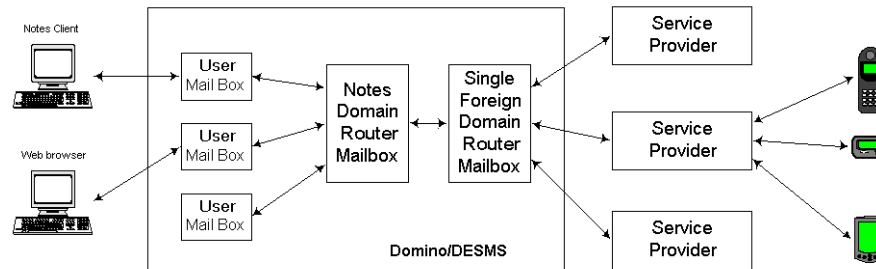
Figure 6-2   Single domain mode diagram

Because all the messages to mobile devices are in a single router mailbox, Domino Everyplace SMS relies on the Device configuration documents to know which provider or mailbox to send the messages to.

The name of the mailbox is specified in the Gateway Configuration document. This field is hidden until single domain mode is selected. The name of the single foreign domain is arbitrary, but make sure you use the same name in the Domino Foreign Domain document and in the Gateway Configuration document. Do *not* name the mailbox/Foreign Domain after a specific service or wireless provider. Instead, use a generic name like *wireless* or *mobile*.

Multiple domain mode

In the multiple domain mode, you have to create a Foreign Domain for each service provider you wish to exchange messages with. Domino Everyplace SMS then is configured to route the messages in each service's router mailbox.
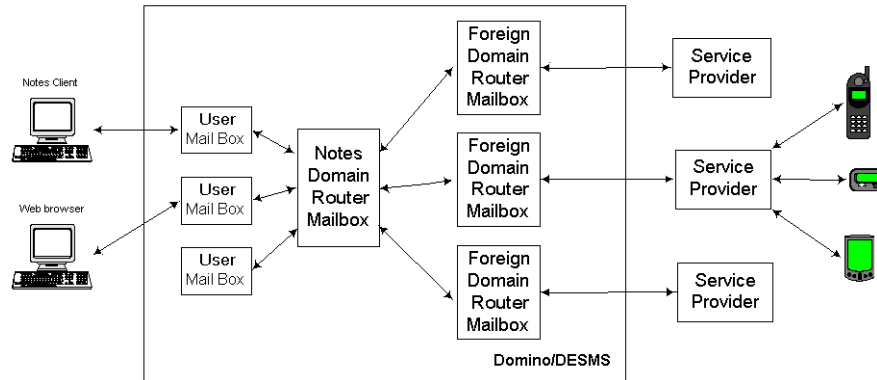
Figure 6-3   Multiple domain mode diagram

The name of the domain *must* match the name of the mobile service provider in the Service Configuration document if users will be sending anonymous messages. Domino Everyplace SMS dynamically creates one mailbox for each mobile service, and the name of each mailbox is specified in the Service Configuration document.

> **Important:** Administrators should never create mailboxes manually because it can interfere with the operation of Domino Everyplace SMS.

Make sure you choose intuitive names for the domain mailboxes so you can relate them to the respective service providers.

Choosing a domain mode

There is no rule regarding the appropriate Domino Everyplace SMS domain mode for your organization. Both single and multiple modes can route the messages between your Notes applications and any number of mobile service providers.

The multiple domain mode is a legacy from Pager Gateway 2.x. If you are upgrading to Domino Everyplace SMS, you will probably want to keep your existing configuration. With the addressing resolution system (see 6.3.3, "Mobile aliases" on page 183) used by Domino Everyplace SMS, there is no special need for having multiple foreign domains.

The addressing schema is somewhat different. In the single domain mode, you would use:

```
UserID@Service@SingleForeignDomain
```

or

```
UserID@SingleForeignDomain
```

where UserID is the device PIN, or the owner's Notes name, or the configurable device alias.

Some customers might prefer the multiple domain mode addressing schema:

```
UserID@Service
```

Another reason to use multiple domain mode is the ability to turn off processing for a single service provider. Disabling the processing for a foreign domain keeps the messages in the queue without expiring them. When the service is re-enabled, it will begin servicing the mailbox again and deliver the queued messages.

6.3.3 Mobile aliases

Domino Everyplace SMS uses different address resolution methods to determine where to route messages that go to mobile devices.

When a message is sent to a Foreign Domain managed by Domino Everyplace SMS, it analyses the address and tries to find a route for that message. A message has to have one of the formats shown in the preceding section.

Domino Everyplace SMS makes use of the Device Configuration documents to determine the destination of a message. Every Device Configuration document contains the following information:

► Who is the owner of the device

► What is the device phone number

► What is the mobile service provider

► What is the device e-mail alias

Multiple domain addressing

In the multiple domain mode, because each service has a Foreign Domain of its own, the addresses have to identify the service as shown in this example:

```
Joe@ServiceProvider
```

What comes before the @ symbol is fully customizable, as shown in 6.6.4, "Device Configuration documents" on page 208. But in the multiple domain mode, what comes after the @ symbol has to be the name of the service, which is the name of the Foreign Domain. Domino Everyplace SMS will get the string that comprises the first part of the address (before the "@") and try to find a Device Configuration document for a service provider that has this string in one of these fields:

► PIN Number

► Device Owner

► Device e-mail address

If Domino Everyplace SMS finds a match, it then uses the information in that document to send the message.

Single domain addressing

In the single domain mode, Domino Everyplace SMS accepts two basic types of addresses:

```
UserID@Service@SingleForeignDomain
```

or

```
UserID@SingleForeignDomain
```

Where UserID must match one of the three fields in a Device Configuration document (PIN Number, Device Owner or Device e-mail address).

Even if Domino Everyplace SMS is not able to make a match with a Device Configuration document, it still can forward the message to a service provider; for example, if a service provider has SMS addresses for its users that are formed by their mobile phone numbers, such as:

```
98765432@ServiceProvider.com
```

Therefore, if you configure a Device Configuration document with a PIN number field with the value DEFAULT for a specific service provider (as shown in 6.5.2, "Domino Everyplace SMS basic setup" on page 194), even if Domino Everyplace SMS does not find a match, it will forward the message to that service provider. The service provider will have to try to resolve the address to send the message to one of its users.

6.4 Installing Domino Everyplace SMS

The installation itself is a rather straightforward task. But since Domino Everyplace SMS is a Domino task, you have to be familiar with Notes/Domino concepts such as Domino domains and foreign domains. Furthermore, as it integrates Domino with outer service providers, there are some things that you will have to know up front.

6.4.1 Software and hardware requirements

Domino Everyplace SMS 2.0 requires the following environment.

Base server requirements
► Domino 5.0.6a or higher

► Windows NT 4.0 Service Pack 6a or Windows 2000

► 96 MB of RAM (more recommended)

► 750 MB (1 GB recommended) of disk space

Additional requirements
► A dedicated communications port with a Hayes modem or an IP connection to the service providers

► HTTP server task running on the Domino server

6.4.2 Pre-installation tasks

Before installing Domino Everyplace SMS 2.0 perform the following tasks.

1. Back up your Domino server.

2. Open the Domino Administrator.

3. Add a Group named Wireless Admin to the Domino Directory by selecting the **People and Groups** tab.

4. Add the names of the people who will administer Domino Everyplace SMS

5. Create a Foreign Domain document in the Domino Directory for each service provider (or a single one for all SMS messages) and enter the following:
   – On the Basics tab
     • Domain type: Foreign domain
     • Foreign Domain name: Enter `mobile`, for example
     • Domain description: Enter a brief description for that domain

–   On the Mail Information tab

•   Gateway server name: Enter the Domino Server where you installed Domino Everyplace SMS

6. Shut down the Domino server and the Notes Administrator client.

7. Close all other applications.

8. Go to the installation CD and run the `setup.exe` program.

6.4.3 Domino Everyplace SMS installation

When you run the installation program, you will be presented with the welcome screen. Click **Next** to start the installation.
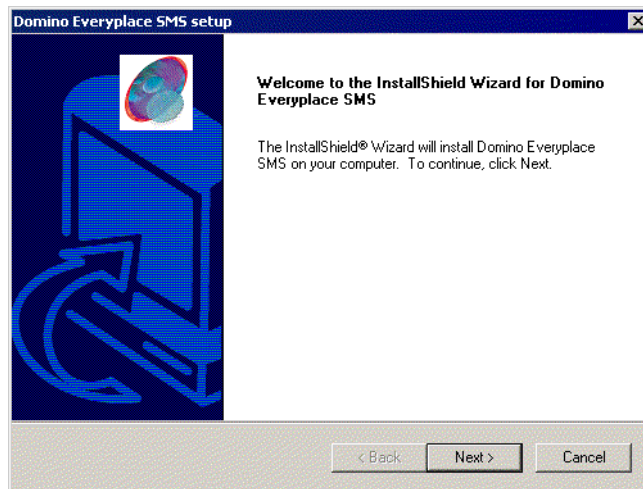
Figure 6-4   Domino Everyplace SMS installation welcome screen

You will then be asked for the location of your server's NOTES.INI configuration file. You can have multiple versions of this file, particularly if you have the Notes client installed in the same computer.
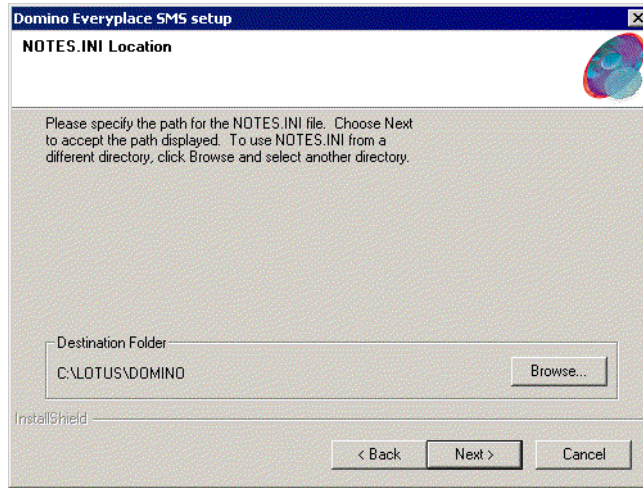
Figure 6-5   NOTES.INI location selection screen

Be sure you choose the NOTES.INI file that your Domino server uses. Then click
Next.

After accepting the Software License Agreement from IBM, you will need to
specify a directory that will hold temporary work files for Domino Everyplace
SMS. It will suggest that you create a folder called SMSTEMP on the root of drive
C, that is, C:\SMSTEMP.
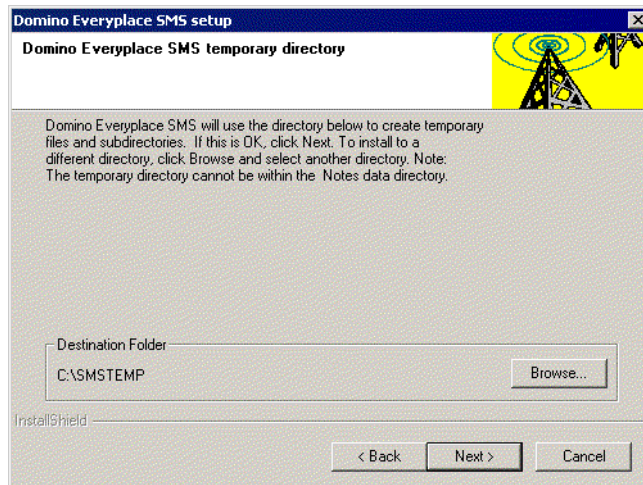
Figure 6-6   Temporary directory selection screen

If you have plenty of space on the drive (750 MB/1 GB recommended), click **Next**
to continue.

Otherwise click **Browse** and select another location for this temporary work directory. Keep the folder name as SMSTEMP. It may be a subfolder of any other directory *except* Domino or Domino\Data, but we suggest keeping it at the root level.

Domino Everyplace SMS has to know the location of your Domino server program files and its data files directory. The next two screens enable you to accept the default location or choose the correct one according to your environment.

Domino Everyplace SMS needs to install its program files in the same folder as the Domino program files.
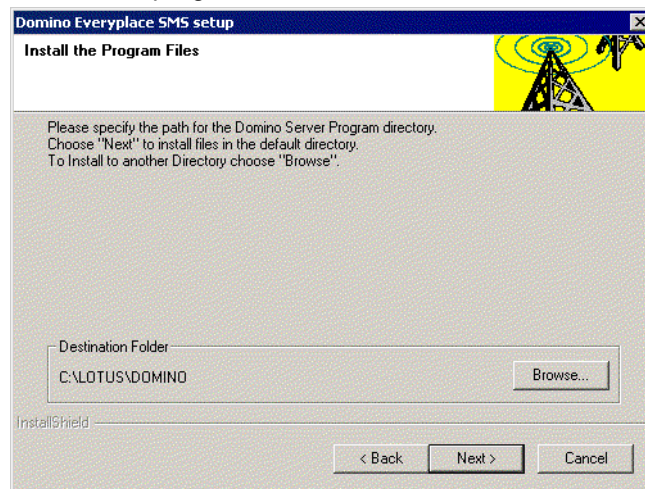
Figure 6-7   Domino program files location selection

In the screen that Figure 6-7 shows, click **Next** to accept the default location, or click **Browse** to search for the Domino program files location.

If your Domino data files are located in the default Domino data folder, you can click **Next** in the next screen (Figure 6-8). If not, click **Browse** to search for their location.
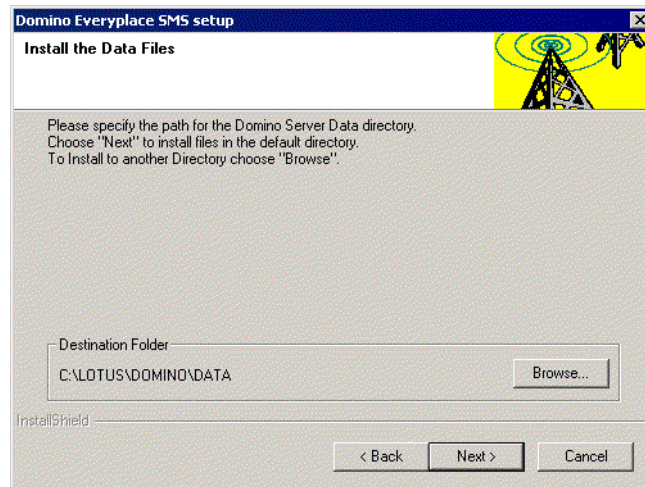
Figure 6-8   Data files location selection screen

Now there is a confirmation screen that alerts you about the install components and where they are about to be installed (Figure 6-9).
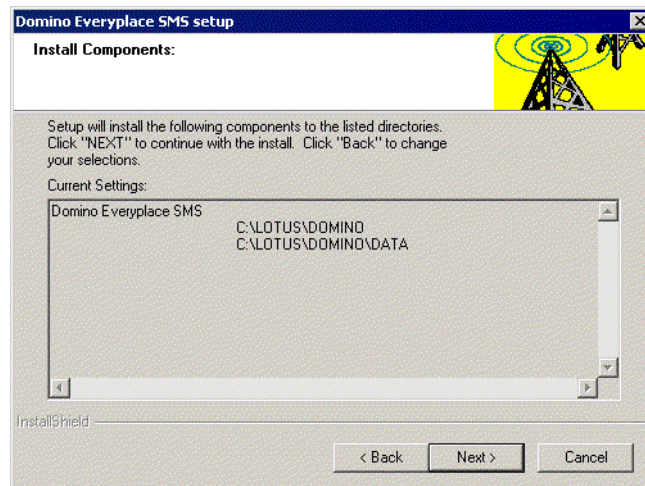
Figure 6-9   Install components confirmation screen

Click **Next** to continue the installation, or **Back** to change any of your previous selections.

Domino Everyplace SMS will start copying its files to the server, as shown in Figure 6-10.
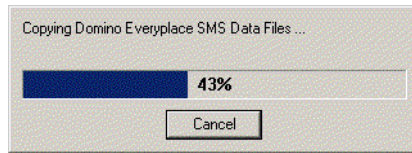
Figure 6-10   Domino Everyplace SMS file copying process

If you have a previous Mobile Services for Domino installation, you probably already have some of the databases used by Domino Everyplace SMS. That is why Domino Everyplace SMS installation not only copies new files for your server, but also verifies the existence of some databases and upgrades them. Figure 6-11 shows this process.
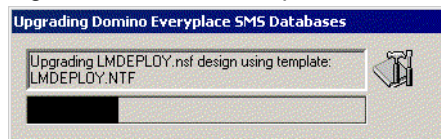
Figure 6-11   Domino Everyplace SMS databases upgrade process

As with any other Windows program, you will have to choose a Program Folder and its location; the location can be in a Common Group (all users) or in a Personal Group (this user only).
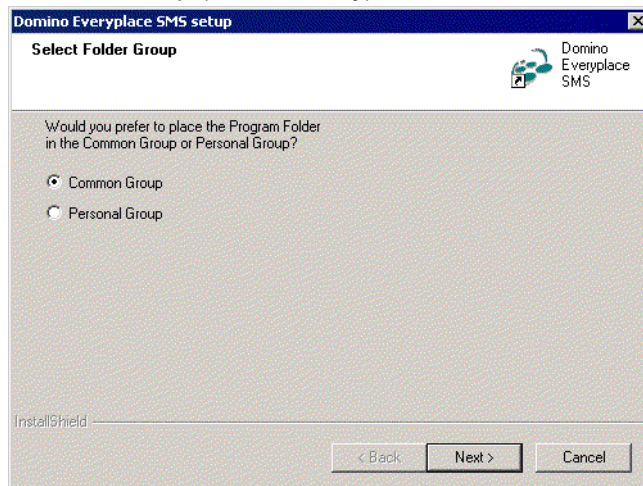
Figure 6-12   Folder Group selection

If you wish to make the Domino Everyplace SMS GUI available to all users of that computer, choose Common Group. Otherwise, choose Personal Group.

The next step is the Folder Selection screen, where you can choose where the Domino Everyplace SMS program icon will be available. In our case, we chose the same folder as Notes and other Lotus applications.
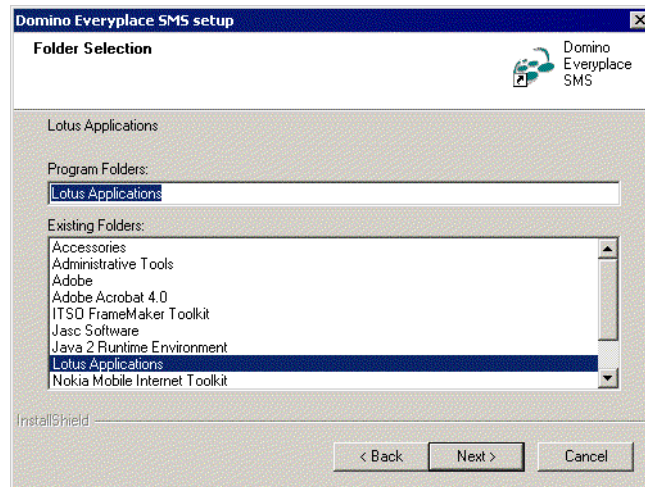
Figure 6-13   Folder Selection screen

Now the Domino Everyplace SMS installation process is finished. You will be presented with a Setup Complete screen, where you can choose to view the Domino Everyplace SMS Read me file. We recommend you do so, as late issues are documented there.
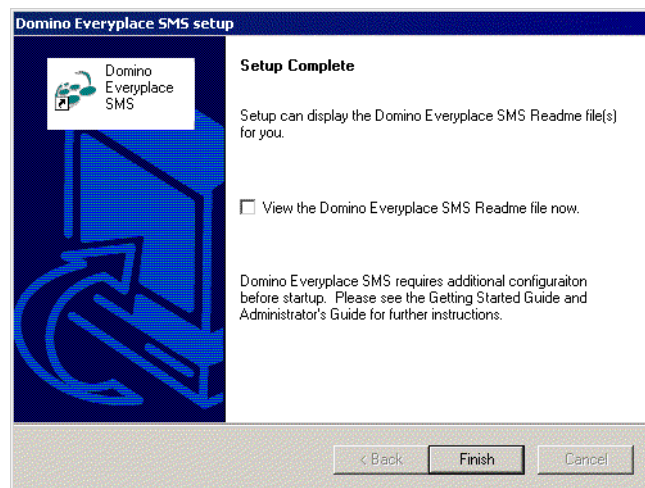
Figure 6-14   Setup Complete screen

Note: Do not try to start your Domino Everyplace SMS server at this time; you still have to perform some configuration tasks.

6.5 Configuring Domino Everyplace SMS

Before running Domino Everyplace SMS 2.0, you will have to create certain configuration documents. There are a number of different protocols and configurations used by service providers around the world, and you will have to ask certain questions of the provider with whom you wish to communicate. These questions are provided later in this section. (See "Questions to ask your service provider" on page 193.)-

Domino Everyplace SMS comes with some Service Provider Wizards built in. Often you will be able to use them with little or no modification. The first thing to do is to start your Domino server and your Notes client with the user ID of a member of the Wireless Admin group you created previously.

Start your Domino server and open the Domino Everyplace SMS Configuration database (MSDCFG.NSF).

Note: If you use the common File -> Database -> Open commands in the Notes client, you might find a database called SMS Admin. Whereas this name may lead you to think this is the SMS administration database, it is actually the SMS documentation database. Its file name is MSDDOC.NSF.
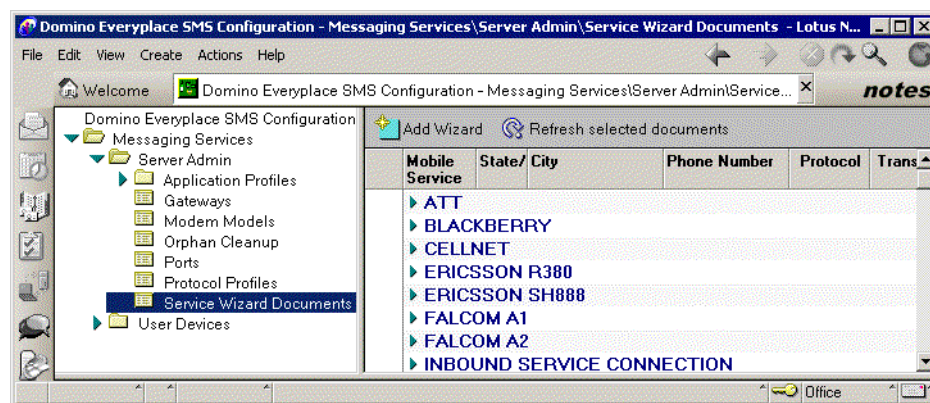
Figure 6-15   Domino Everyplace SMS Configuration database

You should see a Notes view just like the one in Figure 6-15. If you do not see the Server Admin folder in the left pane, probably your user is not a member of the Wireless Admin group. You have to be a member of that group to configure the Domino Everyplace SMS server.

6.5.1 Configuring Domino Everyplace SMS for your service provider

If you click on the Service Wizard Documents, you will see a number of configuration documents that Domino Everyplace SMS has built in. When you create your configuration, you can use these Service Wizard Documents as predefined settings. There are wizards for service providers like AT&T and Skytel, and devices from manufacturers like Ericsson and Siemens.
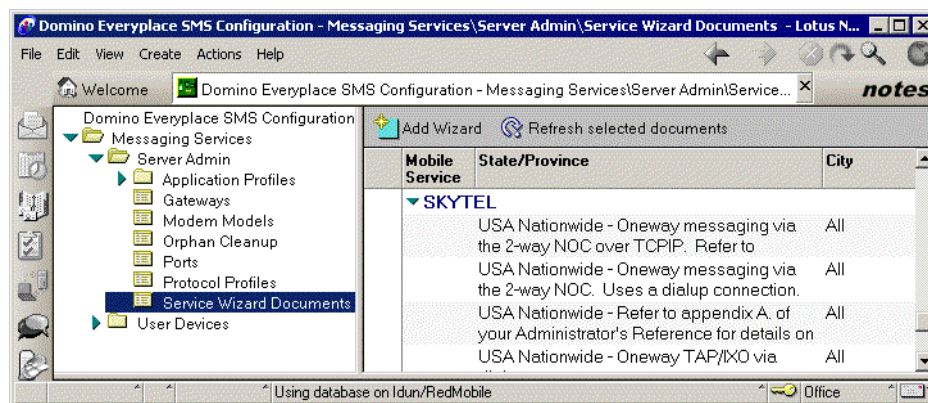
Figure 6-16   Service Wizard Documents view

However, with the large number of providers and manufacturers available worldwide, you may have to work with configurations that are not built in with Domino Everyplace SMS. Domino Everyplace SMS works with a variety of protocols; therefore, it is capable of communicating with practically all service providers and SMS-enabled devices.

When you start to feel more comfortable with Domino Everyplace SMS, you can also create your own Service Wizard Documents. This way you can make subsequent configurations easier.

Questions to ask your service provider

If your provider is not one of those listed in the Service Wizard Documents list, you will have to gather some information from the service provider, such as:

► Protocols supported

► Connection methods supported

► Phone number or IP address for the connection

► Login account and password for the connection

► If it is a modem connection: baud rate, data bits, stop bits, parity, initialization string, error control

- Number of messages per connection or phone call
- Blocks allowed per message
- Maximum block size for the messages
- Character set
- 1-way or 2-way connection
- End-to-end delivery confirmation

Databases used by Domino Everyplace SMS

Domino Everyplace SMS makes use of the following databases:

- Domino Everyplace SMS Configuration (MSDCFG.NSF)
- Domino Everyplace SMS Event Log (MSDLOG.NSF)
- Domino Everyplace SMS Administrator's Guide (MSDDOC.NSF)
- Domino Everyplace SMS: DO NOT DELETE (MSDPPM.NSF)

Note: The SMS Administrator's Guide (SMSAdmin) also mentions a Domino Everyplace SMS Release Notes database, but this is now a text file (Domino Everyplace SMS Readme.txt).

6.5.2 Domino Everyplace SMS basic setup

You must create the following documents to configure and set up the server. These procedures contain the basic configuration to get you up and running by using defaults wherever possible.

Note: This configuration is probably not the best for your real environment, but will serve to test your installation and to introduce you to the Domino Everyplace SMS configuration procedures.

1. If you have not done this yet, start the Notes client and Domino server.
2. In the Notes client, open the Domino Everyplace SMS Configuration database.

3. Create a Gateway document by selecting **Messaging Services -> Server Admin -> Gateways** from the view sidebar, and then click **Add Gateway**; see Figure 6-17.
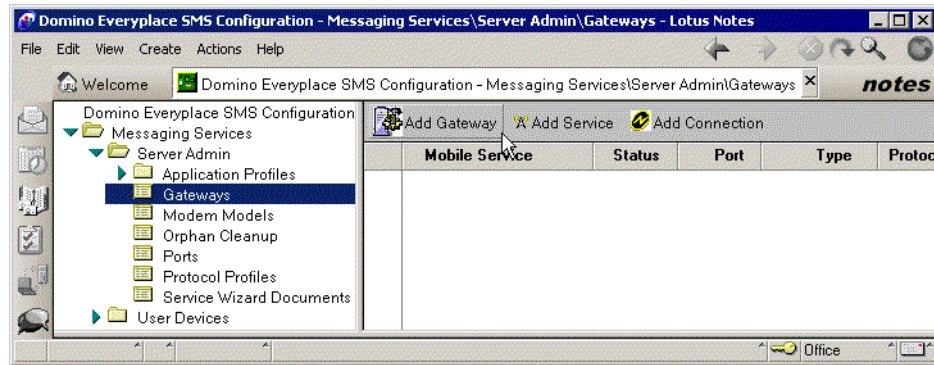
Figure 6-17   Creating a Gateway Configuration document

4. Complete the following on the General Settings tab (Figure 6-18 on page 196):

   – Domino Server name: Enter the name of the Domino server that contains Domino Everyplace SMS.
   – Foreign Domain Configuration: Select **Single**.
   – Messaging Services Mail Filename: Enter `MOBILE.NSF`.

> **Important:** *Never* create MOBILE.NSF or any other Domino Everyplace SMS mailbox manually. The gateway will create them automatically on startup. This differs from Sametime Everyplace, where you must create the mailbox manually.

   – Messaging Services Domain Name: Enter `mobile`.
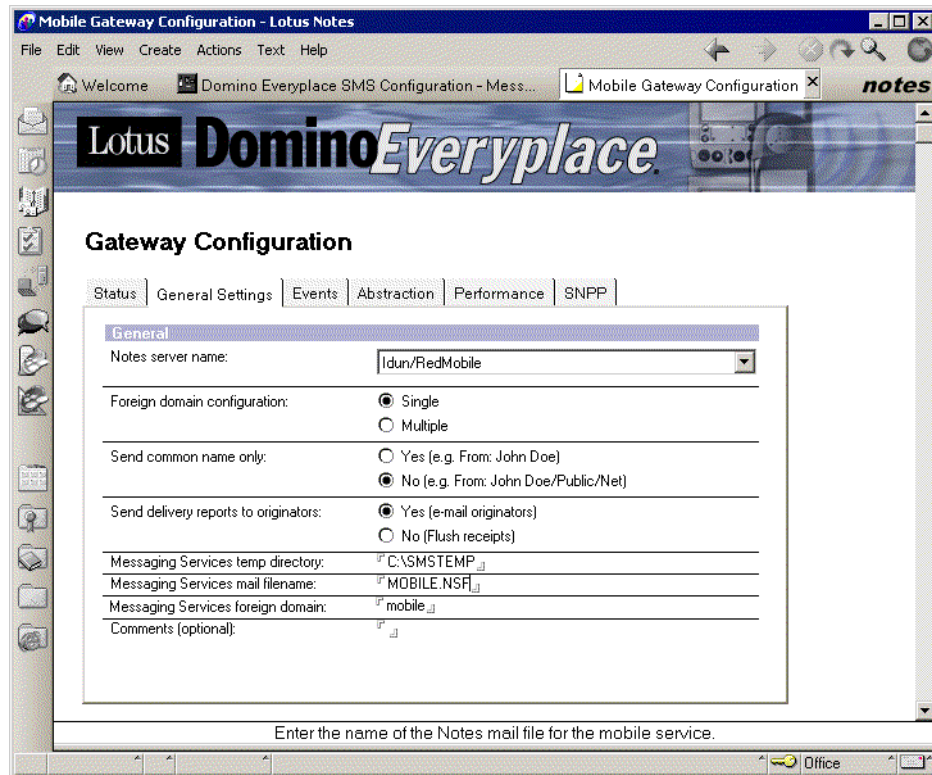
Figure 6-18   Gateway Configuration document

Save and close the Gateway Configuration document (refer to 6.6.1, "Gateway Configuration document" on page 205 for more information).

5. Create a Port Configuration document by selecting **Messaging Services -> Server Admin -> Ports** from the view sidebar. Select the **MS Configuration** document and then click **Add Comm Port**; see Figure 6-19 on page 197.
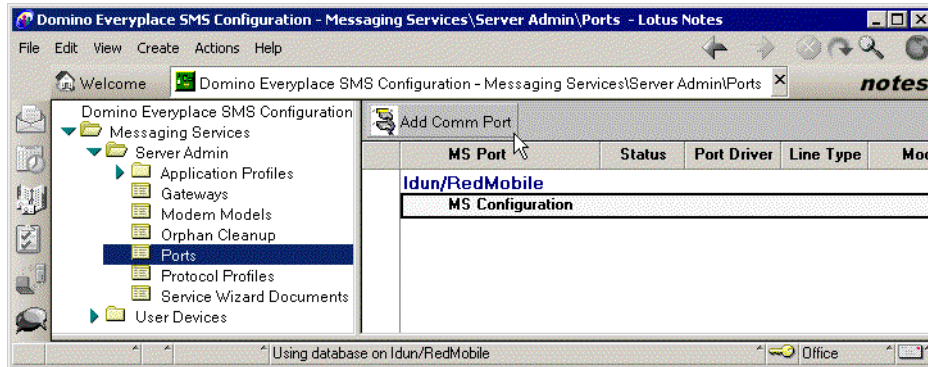
Figure 6-19   Creating a Comm Port

6. On the General tab, select the Port Name from the list. You have a choice of COM1 - 128 or LAN1 - 128. The fields displayed depend on the type of port you have selected. If you choose a COM port, then the fields will reflect a modem port configuration (Figure 6-20).
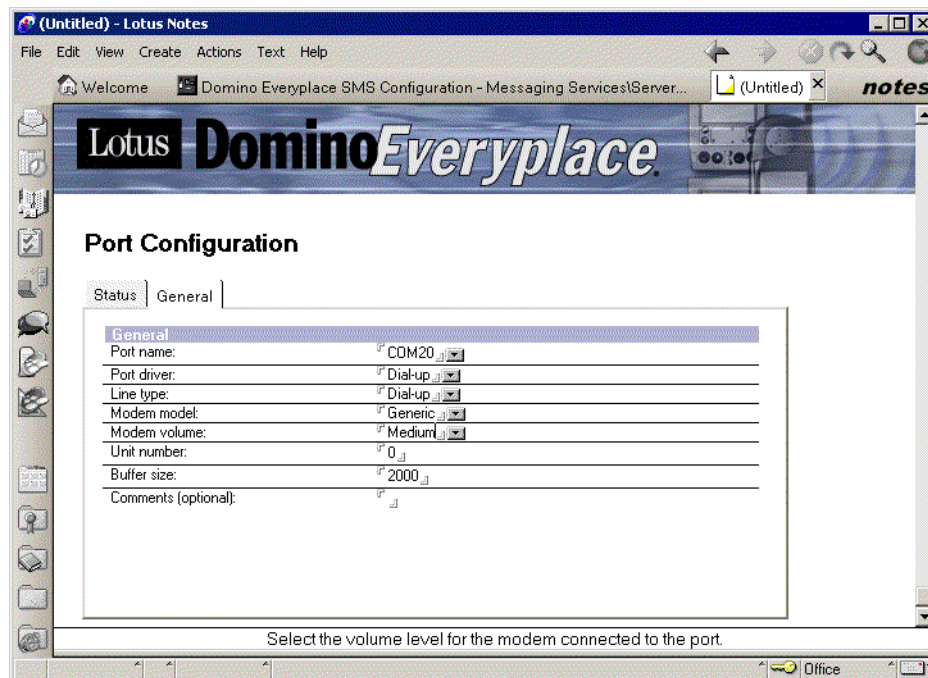
Figure 6-20   COM Port configuration

Fill in the fields with your modem line configurations.

If you choose a LAN port, the fields will be related to a network connection (Figure 6-21).
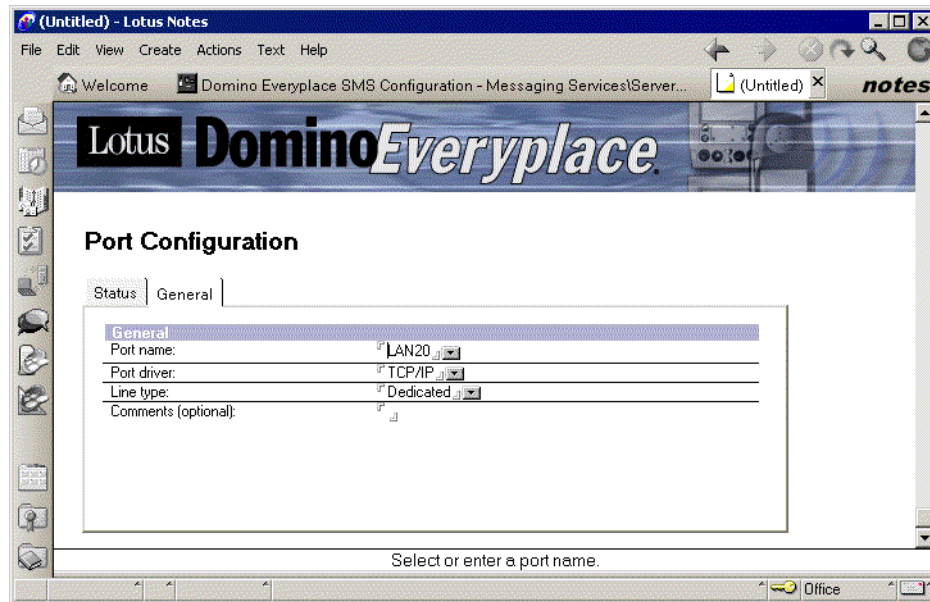
Figure 6-21   LAN Port Configuration

Fill in the fields according to your network connection with your service provider. There is not much to configure when using a LAN port.

7. Save and close the Port Configuration document.

8. Create a Service Configuration document by selecting **Messaging Services -> Server Admin -> Gateways** from the view sidebar. Select the Gateway document with which the Service document will be associated, and then click **Add Service**; see Figure 6-22 on page 199.
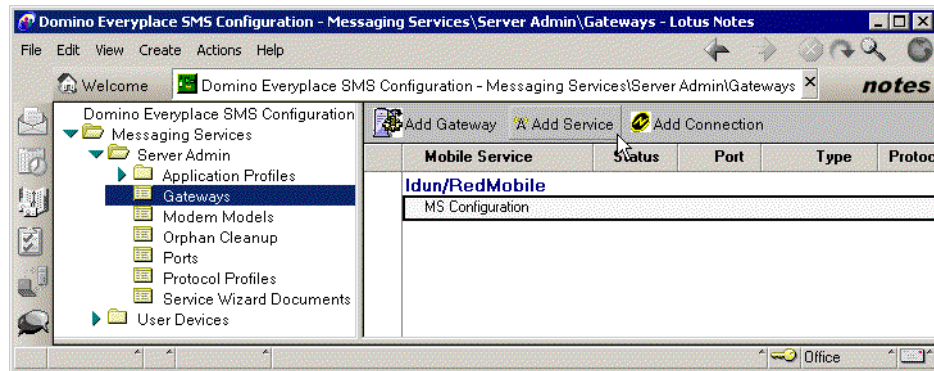
Figure 6-22   Adding a Service document

9. You will be presented with a blank Service Configuration document (Figure 6-23).
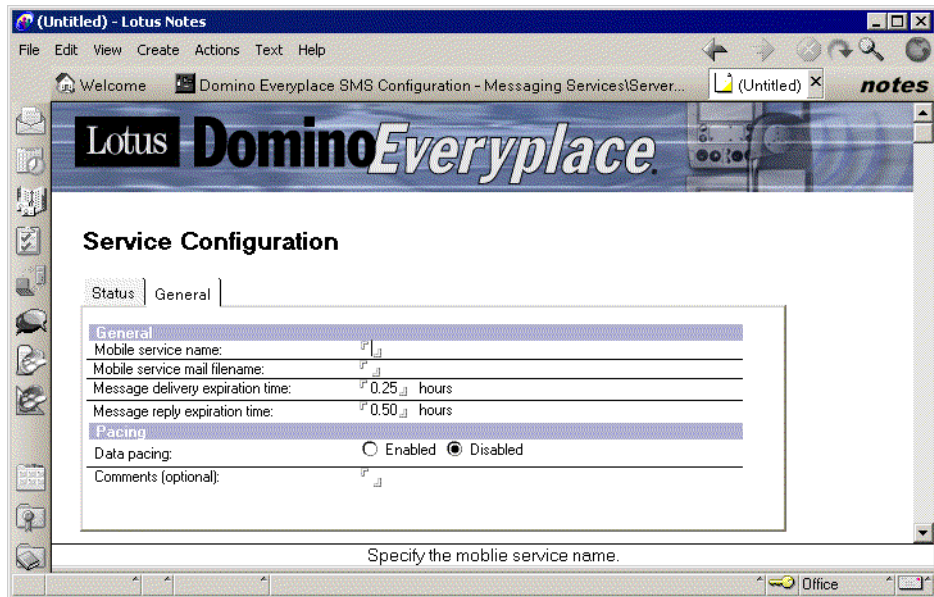
Figure 6-23   Service Configuration document

Enter the Mobile service name and the Mobile service mail filename on the General tab. Both filenames should be the same.

10. Save and close the Service Configuration document.

11. Create a Connection document by selecting **Messaging Services -> Server Admin -> Gateways** from the view sidebar. Select the Service Configuration

document with which the Connection document will be associated and then click **Add Connection**. See Figure 6-24.
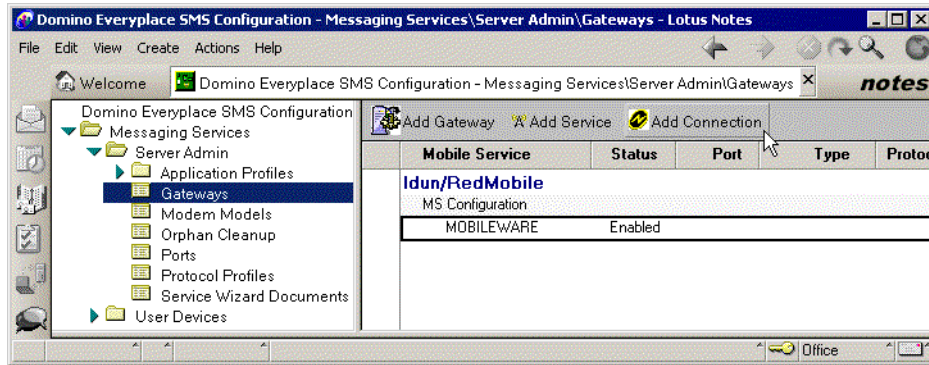
Figure 6-24   Adding a Connection

12. On the General tab:

– Click the **Wizard** button (Figure 6-25), then click the **Service List** button (Figure 6-26 on page 201).
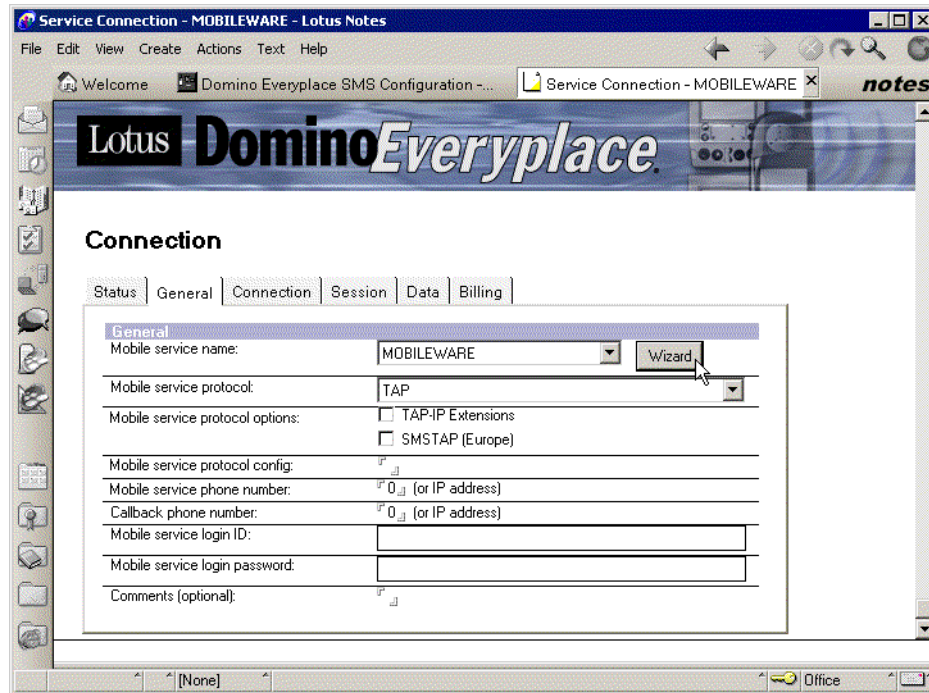
Figure 6-25   General tab: Wizard button
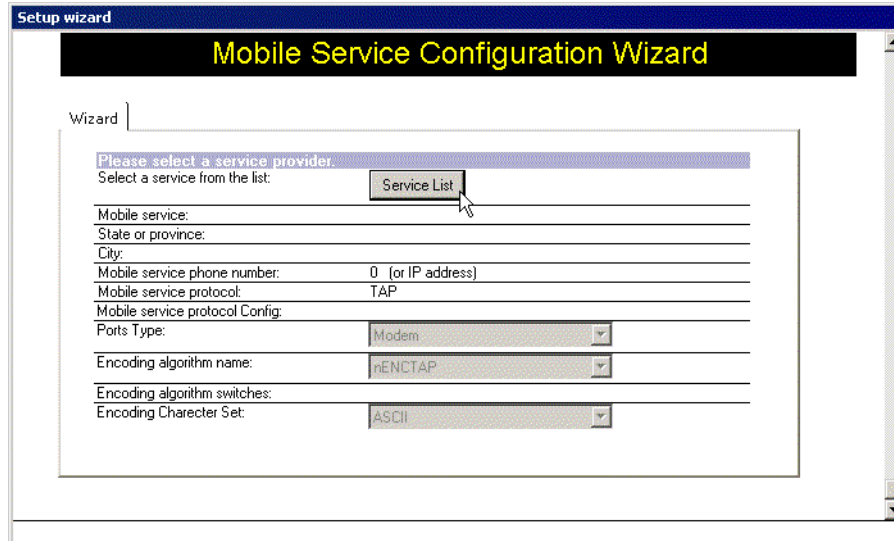
Figure 6-26   Mobile Service Configuration Wizard

– Select the desired service provider and click **OK** (Figure 6-27).
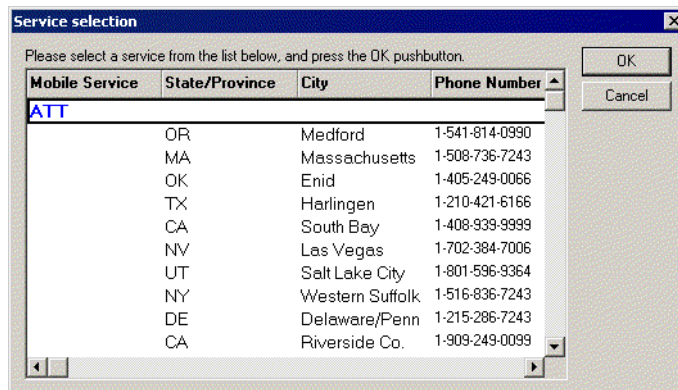
Figure 6-27   Service selection dialog

Click **OK** again to automatically fill in the information.

– (Optional) Enter the Mobile Service login ID and password (Figure 6-23 on page 199) only if your provider requires them; otherwise, leave these fields blank.

13. On the Connection tab, check the Use Port field to make sure it is set to the proper ports for this connection (see Figure 6-28 on page 202). You can only enter in this field ports that you have already created (see steps 5 through 7).
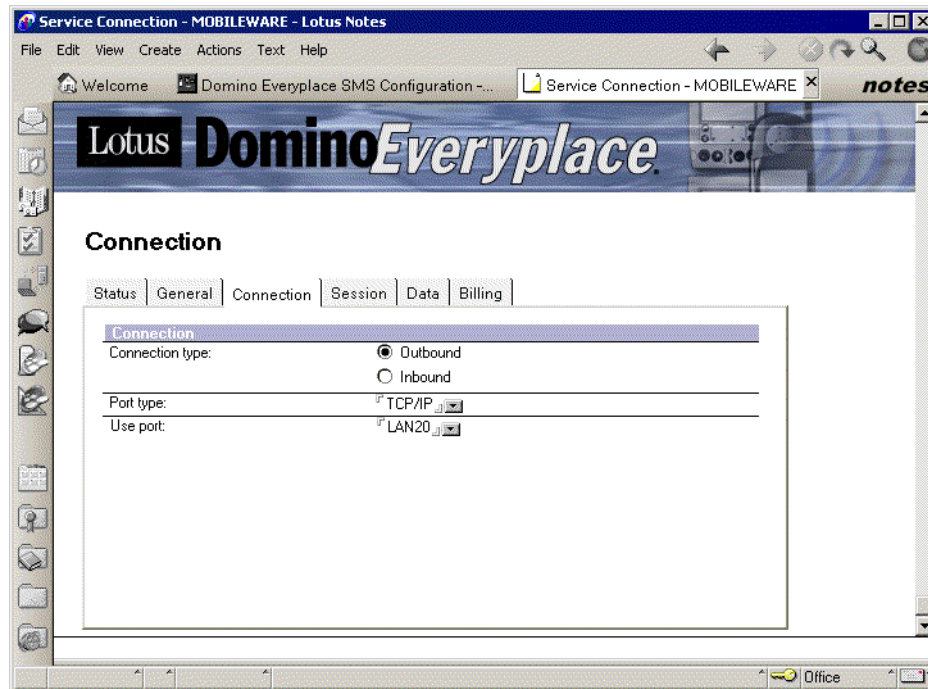
Figure 6-28   Connection tab

14. Save and close the Connection document.

15. Create a Device document by selecting **Messaging Services -> Devices -> Owner** from the view sidebar, and then click **Add Device**; see Figure 6-29 on page 203.
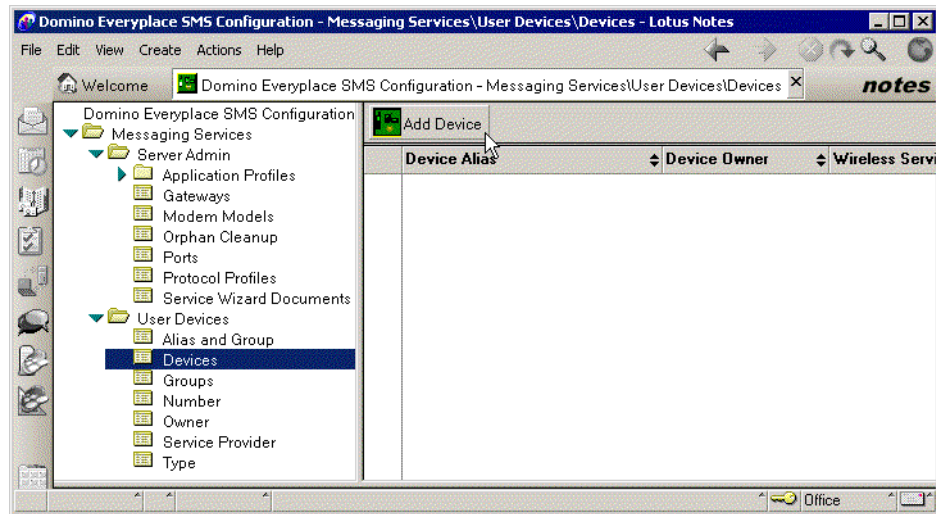
Figure 6-29   Adding a device profile

16.Complete the following on the General tab (Figure 6-30 on page 204):

– Device owner: Change to the server's hierarchical name.
– Mobile phone number: Enter DEFAULT (in all caps).
– Wireless service provider: Select the provider from the keyword list.
– e-mail alias: Enter the server name, Mobile and @mobile (for example, Server1Mobile@mobile).
– Device type: Select the type of mobile device that matches the type of device you are using. If there are any two-way devices, you must select the 2-Way option.
– Content: The maximum length of each data block and the maximum length of the entire message.
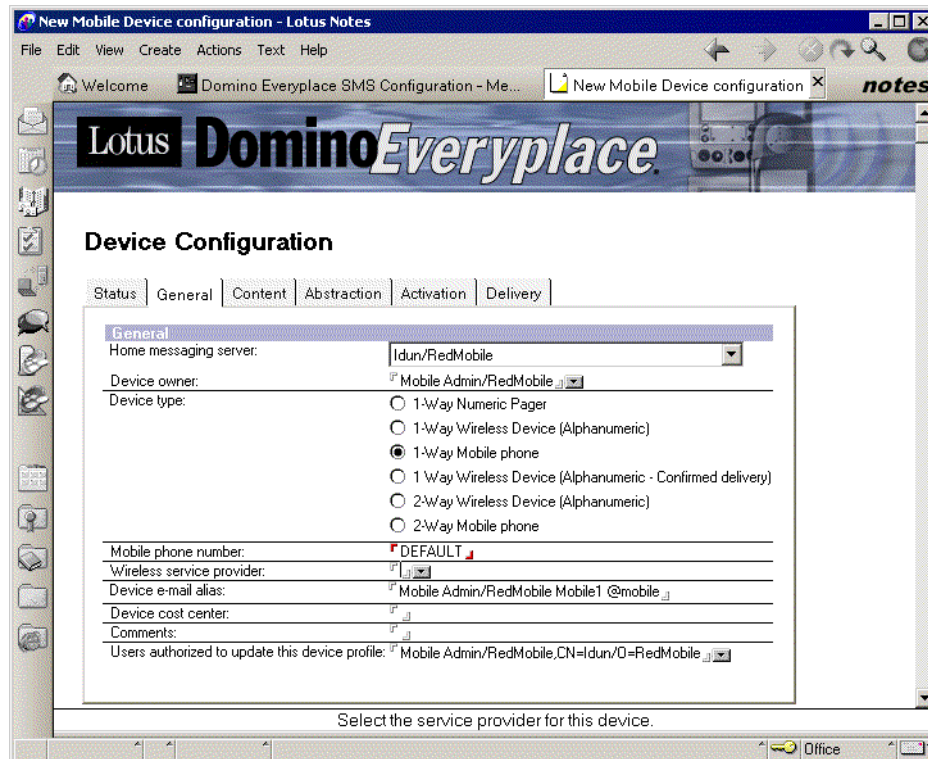
Figure 6-30   Device Configuration document

17.Save and close the Device document.

18.Exit Notes.

You have now configured your Domino Everyplace SMS. If you want to try out your basic Domino Everyplace SMS configuration, refer to 6.7, "Testing Domino Everyplace SMS" on page 209.

6.6 Domino Everyplace SMS advanced configuration

Now that you have followed the steps for a basic configuration, you will probably want to configure Domino Everyplace SMS for your own environment and according to your company's needs.

In the basic configuration procedure described in 6.5.2, "Domino Everyplace SMS basic setup" on page 194, we guided you through the steps and provided you with the minimum amount of information needed to set up Domino Everyplace SMS.

The *SMS Admin Guide* thoroughly describes each configuration document with its tabs and fields, and we do not duplicate that information here.

In the following section, we highlight and briefly discuss the most important aspects of Domino Everyplace SMS configuration procedures. Refer to the *Admin Guide* for detailed information.

6.6.1 Gateway Configuration document

This document represents the settings of the Domino Everyplace SMS and specifies the following:

► How often Domino Everyplace SMS checks for inbound and outbound messages

► What messages Domino Everyplace SMS writes to the log file

► The common abbreviations and expansions to use for words and phrases in outbound messages

You must create a Gateway Configuration document for each Domino server on which you install Domino Everyplace SMS.

To do that, open the SMS Configuration database in your Notes client. Select the **Messaging Services -> Server Admin -> Gateways** view, and click the **Add Gateway** button, as shown in Figure 6-17 on page 195.

If the Gateway Configuration document for that server has already been created, then you can open it by double-clicking the document in the Gateways view entitles MS Configuration (MS stands for Mobile Services).

> **Note:** Each modification will only take effect after the Configuration Refresh task runs, which occurs every 60 seconds.

Status tab
You can stop and restart the Domino Everyplace SMS routing services with the Status tab.

General Settings tab
The most important thing here is to define whether you are going to work in a single domain mode or in a multiple domain mode.

Once you have chosen a domain mode, you have to configure the Messaging Services Domain Name and mail filename. The Messaging Services mail filename is only needed in a single domain configuration. If you choose multiple domain mode, then the mail filenames for each foreign domain will be configured in the respective Service Configuration documents.

Events tab

This tab allows you to select which information you want logged in the Domino Everyplace SMS Event Log database. This information can be very useful for troubleshooting your installation, but be careful with the amount of information within your log file. A big log file quickly becomes useless if you are not able to browse through it and find the events you need.

There are four types of events you can choose to log:

► Log Gateway Status Messages: Indicates whether the Domino Everyplace SMS is enabled, disabled, or shut down
► Log Message Transaction Messages: Reports the status of each message sent through Domino Everyplace SMS
► Log Gateway Error Messages: Provides information about errors occurring in Domino Everyplace SMS
► Log Diagnostic Messages: Provides information about events occurring in Domino Everyplace SMS

Log Diagnostic Messages has a note saying it uses a lot of disk space. Refrain from using this option unless you are still having problems with the installation. For example, if you turn this option on, it will generate five entries in the log each time Domino Everyplace SMS checks for new messages. In a regular configuration, this means 60 log entries per minute.

Abstraction tab

This tab allows you to configure abbreviations and expansions. An abbreviation takes lengthy text in a message that is being routed to a mobile device and shortens it, thus reducing the size of the message. For example, "United States of America" becomes "USA." An expansion does the opposite. For instance, the abbreviation "eg" is transformed into "for example."

Performance tab

This tab has intervals of polling that you can increase or decrease, depending on your performance needs.

SNPP Server Parameters tab

Note that the parameters in this tab are valid only if SNPP is used for *inbound* messages. If you are using SNPP to establish outbound connections with service providers, the parameters for those connections are specified in their respective Connection Configuration documents.

6.6.2 Service Configuration documents

There is a Service Configuration document for each service provider with whom you wish to communicate. You can set message expiration times, enable and disable the service, and enable and disable data pacing.

Data pacing is an outdated configuration held over from the days of slow modems (1200 baud). It is a limit on the number of bytes transmitted, which gives the hardware a chance to catch up when transmitting large blocks of data. If the provider requires data pacing you have to enable it, or else you are not going to be able to communicate with it at all. It is not commonly used nowadays, but Domino Everyplace SMS still supports it.

To create a Service Configuration document, in the Domino Everyplace SMS Configuration database, select the **Messaging Services -> Server Admin -> Gateways** view. Select the Gateway Configuration document (MS Configuration, most likely) and click the **Add Service** button. This procedure is shown in Figure 6-22 on page 199.

After you create the Service Configuration documents you need, you will notice that they appear in the same Gateways view, but identified by the names of the Services (that should reflect the names of the service providers). If you need to change a service configuration, double-click the respective document in that view to open it.

The changes in Service Configuration documents take effect as soon as you save them. There is no need to restart Domino Everyplace SMS.

The most important information in these documents is the service name, found in the field Mobile Service name. It is this name that will be used by Domino Everyplace SMS to route messages for users of that service.

If you are using a multiple domain configuration, then there is another very important piece of information in the Service Configuration document: the name of that service's mail filename (Mobile Service mail filename field). This is a foreign domain router mailbox where the messages go before being forwarded to the service provider. Be sure you use the same name here as you used in the service's Foreign Domain document.

6.6.3 Connection Configuration documents

A connection represents a physical means of exchanging data between Domino Everyplace SMS and a service provider. It defines a port, a protocol and its configurations, and a direction (inbound or outbound), among other things.

There can be one or more Connection Configuration documents for each service. In fact, the more different connections with a particular service you have, the more that service will be available to your users. There are some scenarios where the carrier provides your company with one or more Internet network connections and one or more direct dialup connections, in case of network failure.

To create a Connection Configuration document, in the Domino Everyplace SMS Configuration database, select the **Messaging Services -> Server Admin -> Gateways** view. Select the Service Configuration document for which you want to create the connection, then click the **Add Connection** button (as shown in Figure 6-24 on page 200). It will open a blank Connection Configuration document.

The Connection Configuration documents appear in the Gateways view as child documents from the Service Configuration documents, which in turn are child documents from the Gateway Configuration document. To change the configurations of a particular connection, double-click the document to open it.

Each protocol has its own parameters, as well as each type of dialup connection. There are some Service Wizards Entries which may be perfect for your providers. But sometimes you do not find an entry that matches exactly with your service provider specifications. If this is the case, refer to "Questions to ask your service provider" on page 193. With the information you receive from them, you will be ready to create your Connection Configuration document.

When you have more than one connection with a single service, there is a priority between them. Domino Everyplace SMS will give preference to the "oldest" connection, i.e., the Connection Configuration document that was created first, that has the oldest DocID. If that connection fails, Domino Everyplace SMS will try the next connection, in that order.

6.6.4 Device Configuration documents

The Device Configuration document contains all of the user preferences and information about the mobile device. For each mobile device used with Domino Everyplace SMS, there has to be a respective Device Configuration document. This is important because a single user can own more than one mobile device. Furthermore, each mobile device has different settings.

You can view the list of current Device Configuration documents in Domino Everyplace SMS by selecting the **Messaging Services -> User Devices -> Owner** view. To add a new Device Configuration document, click the **Add Device** button in that view, as shown in Figure 6-29 on page 203.

In a Device Configuration document, you can specify which message contents you want receive in the mobile device, private abstractions, available times and maximum size of messages, among other things.

Domino Everyplace SMS relies on the Device Configuration documents to determine the destination of each message to mobile users. In the Device Configuration document for a user's mobile device, there are four important fields that Domino Everyplace SMS uses in the routing process: the Device Owner (which is a Notes user), the Mobile phone number, the Wireless service provider, and the Device e-mail alias. The routing process is described in 6.3.3, "Mobile aliases" on page 183.

The first time you create a Device Configuration document for a particular user, Domino Everyplace SMS will automatically fill the Device e-mail alias field with the value:

`UserName Mobile1@MobileForeignDomain`

This alias is fully customizable, meaning that you can change it as you please. Note that the string "Mobile1" indicates that this is the first Device Configuration document for that user. If you create a subsequent Device Configuration document for the same user, Domino Everyplace SMS will fill the Device e-mail alias field with the value:

`UserName Mobile2@MobileForeignDomain`

"Mobile2" indicates that this is the second device for that same user. Some customers prefer to indicate what kind of device it is, having addresses like:

```
John Pager@mobile
John CellPhone@mobile
John PDA@mobile
```

6.7 Testing Domino Everyplace SMS

To verify your Domino Everyplace SMS configuration, you can create and send a message to a mobile user.

Obviously, to actually receive the message in a mobile device, you need a subscription with a service provider that allows you to use SMS messages, and an SMS-capable device. Furthermore, you have to know if the service provider makes a connection available to you, as described in "Questions to ask your service provider" on page 193.

However, before you try a connection with a service, you probably will want to check if your Domino configuration is right, thus reducing the possibility of errors in a next stage.

6.7.1 Running the necessary Domino tasks

For Domino Everyplace SMS to perform the redirection of messages to the configured services, it needs the Domino server running specific tasks.

Domino Everyplace SMS makes use of a Domino Foreign Domain. Therefore, all the messages you send to mobile devices first go to a routing mailbox. They will not be forwarded to the service providers unless you have the Domino *router* task running.

Therefore, load the router task by typing at the Domino server console:

```
load router
```

or add router to the server tasks list in the NOTES.INI file. This is the preferred option because you will not need to load this task every time you restart the server.

6.7.2 Starting Domino Everyplace SMS

Domino Everyplace SMS is not automatically added to the Server tasks. Do one of the following:

► Add Domino Everyplace SMS to the server tasks list in the NOTES.INI file.

► Type the following at the Notes console:

```
LOAD DESMS
```

6.7.3 Sending a test SMS message

Follow these steps:

1. Open your mail database.

2. Create a new Notes mail memo.

   In the To: field, do one of the following:

   – Enter the PIN for the receiving device, followed by the at sign (@) and the domain name for the mobile service associated with the device. For example:

   Single: 1234567@AcmeMobile@mobile

   Multiple:1234567@AcmeMobile

   The domain name you enter here (in this case, AcmeMobile) must match the domain name specified in the Foreign Domain document you created for this mobile service.

   – Enter the full (user) name of the person to receive the message. For example:

   Single: JoeUser@AcmeMobile@mobile

   Multiple: JoeUser@AcmeMobile

3. (Optional) Type a subject and message.

4. Send the message.

If the message is *not* transmitted, you should receive a notice in Notes mail that tells you something about the problem. Check the Event log (MSDLOG.NSF) for more information. Correct the problem if you can, restart the Domino Everyplace SMS, and send another test message.

6.7.4 Stopping Domino Everyplace SMS

Domino Everyplace SMS works as any Domino server task. To stop Domino Everyplace SMS, go to the Notes server console window and type:

```
TELL DESMS QUIT
```

6.8 Troubleshooting tools

Domino Everyplace SMS integrates several products in a single solution. Therefore, if things do not work as planned, there are a number of details that you have to check. Some of them were pointed out earlier in this chapter. But real world environments are very particular; each one has its own details and needs, and the best troubleshooting resources are the knowledge and documentation of how the environment is configured.

Domino Everyplace SMS has tools that can help the administrator determine what may be wrong with the installation.

6.8.1 Event log database

The Event Log database (MSDLOG.NSF) records all the events related to Domino Everyplace SMS. It is a regular Domino database and can be opened with your Notes client. It gives the Default user Reader access, and the Wireless Admin group Manager access by default.

The events can be sorted by Cost Center, by Date, by Message Length, by Mobile Service, by PIN, and by Type (of Event).

If you select the Date and Type views, you are going to see all of the events, including the Diagnostic ones. The other views show only the events related to specific message transfers.

Depending on the usage of your Domino Everyplace SMS server, the Event Log database can become very large, especially if you have the diagnostic logging enabled. Fortunately there is an action that deletes all documents that are more than 90 days old, so you do not have to select and delete the old documents by hand. Figure 6-31 shows how you can trigger this action.
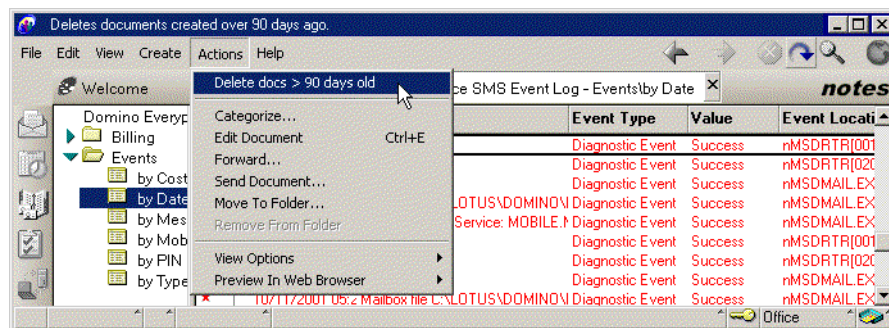
Figure 6-31   Delete docs action

6.8.2 Router mailboxes

Sometimes messages are kept in the routing mailboxes (for example, if the router is not able to contact the other server). You can open the Service mailboxes and manually release the messages in the queue.

6.8.3 Domino Everyplace SMS Monitor

The Domino Everyplace SMS Monitor is a graphical user interface (GUI) that allows you to monitor Domino Everyplace SMS activity. You can run it by clicking the program icon in the Windows Start menu (Figure 6-32).
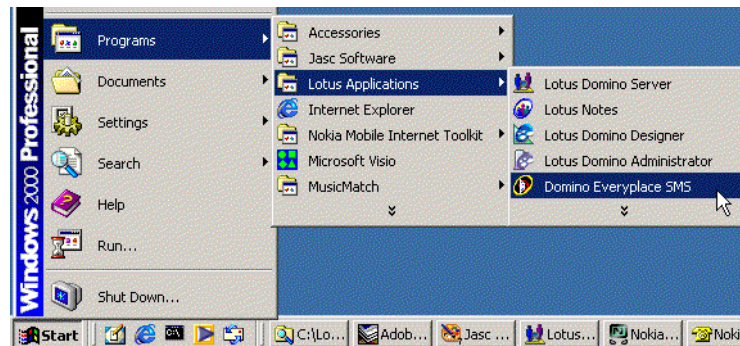
Figure 6-32   Domino Everyplace SMS Monitor start

> **Tip:** You can also launch the Domino Everyplace SMS Monitor GUI window by typing `Load SMSGUI` from the Domino server console.

You will be able to check the following:

- ► Subsystem status
- ► Router status
- ► Encoder status
- ► Queue status
- ► Statistics

Refer to the *SMS Admin Guide* for a detailed description of each of these monitors.

When you open the Domino Everyplace SMS Monitor, you will be presented with all five monitors tiled in the screen, just like Figure 6-33 on page 214.

The window on the top left is the MS Router instance monitor. It monitors the communication ports. There is no way of showing the activity in all ports in a single screen, so the ports are divided in groups of 12, and there is a window for each group.
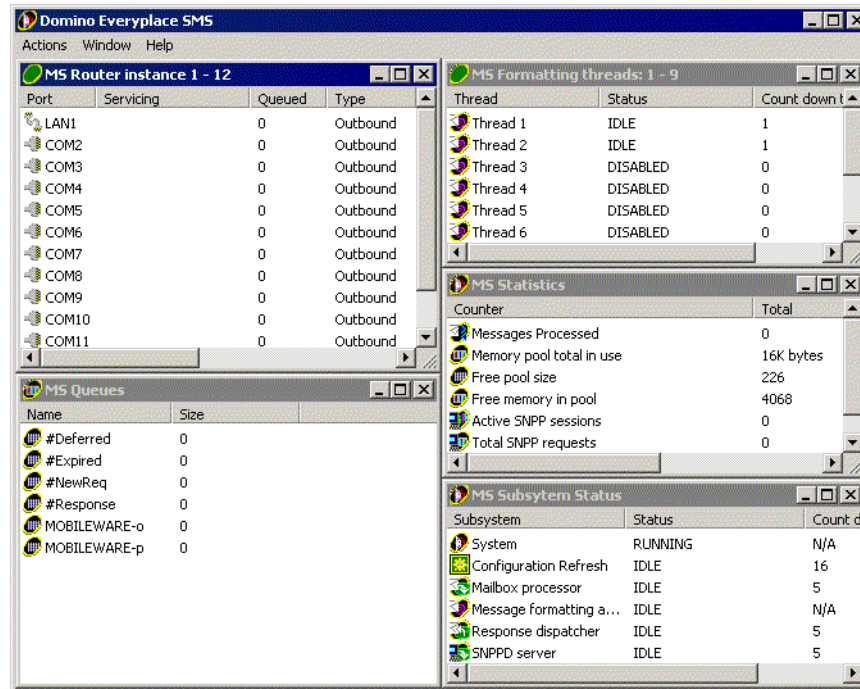
Figure 6-33   Domino Everyplace SMS Monitor

To view the activity in the other ports, select the **Window -> Router status** menu, then the desired group of ports, as shown in Figure 6-34 on page 215.
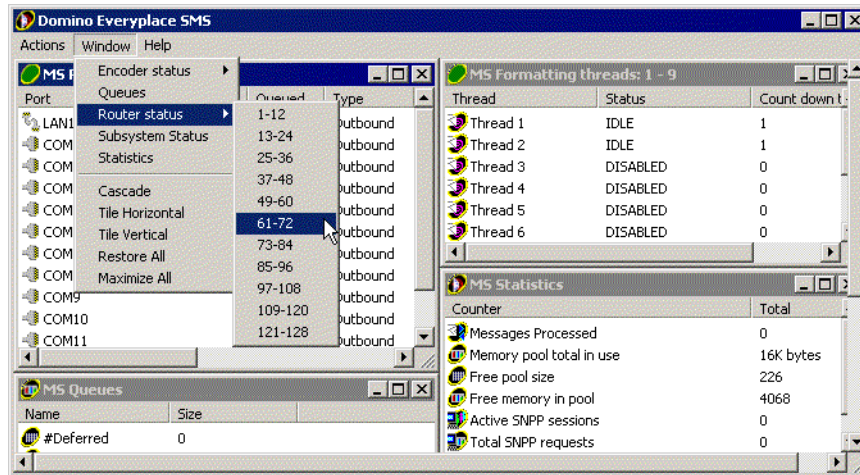
Figure 6-34   Selecting a group of ports

Figure 6-35 shows an example of the status of a group of ports. You can see information such as type (inbound/outbound), status (disabled, idle, etc.) and the frequency of the queue checking (Next cycle).

Figure 6-35   Group of ports

With this monitor, you can observe the message flow through Domino Everyplace SMS. Use this monitor while testing your installation. Check for the ports and for the Statistics window.

Customized Solutions for Domino Everyplace Access

In this chapter we detail Domino Everyplace Access. We describe the various ways to customize your Everyplace Access portals, as well as how to enable new and existing Domino applications to be accessed on your wireless devices.

7.1 Domino Everyplace Access overview

Domino Everyplace Access is a complete customized wireless application. It sits on top of Domino and by default, you will already have access to your inbox, calendar, to-dos and corporate directory. All these features have the look and feel of the standard Notes client that you are already familiar with.

If you want to create additional links and allow existing Domino applications to be enabled for your wireless users, you can enable them using the Domino Everyplace Access application design tool. This application design tool enables databases to be accessed using a wireless device. There are several steps to enabling an application for the wireless device. If you have decided on creating a new database, you will need to design it, build it, and then compile it, to enable it to be used on the wireless device.

Domino Everyplace Access has a utility to help you compile databases for use by several major brands of wireless devices.

You can extend Domino Everyplace Access further, for example, giving your mobile and wireless users access to your existing Travel Request application so they can: review the status of their flight requests; request a new flight; determine the details and schedules of the flight numbers/times, and so on.

Or maybe you would just like to customize your headings. This is all possible with the application design utility and Domino Everyplace Access.

7.2 Designing wireless applications

Wireless devices do not yet have the same capabilities as Notes or Web clients, therefore, you need to carefully plan the architecture and structure when creating new Domino applications. This is due to the large number of constraints you face when enabling applications for wireless devices.

Following is a list of limitations that need to be considered when creating applications.

Device capabilities

Every device has its own characteristics, and Lotus Software has tried to ensure that all device types have been included. Because these characteristics are all different, some features will be viewable on one device, and not on others.

Connection speed

The maximum connection speed is 14.4 kbps, and some older devices are still only capable of up to 9.6 kbps; therefore, only minimal amounts of data can be sent to your devices. Some networks support High Speed Circuit Switched Data (HSCSD), which allows you to connect at speeds of up to 43.2 kbps.

Display

Due to the portability of mobile devices, displays are kept to a minimum and therefore do not have same capabilities as handheld devices or monitors. Displays on these wireless devices come in all shapes; you need to take this into consideration when developing your wireless application.

Deck size

Domino Everyplace Access Server sends data to the wireless device in *decks*. A deck can contain text, editable fields, several documents that are categorized in a view, or the data from within a document. Every device has a limited amount of memory assigned to this deck.

7.2.1 Application design tool

The Domino Everyplace Access application design tool comes with Domino Everyplace Access Server. This design tool allows you to enable new applications to be accessed by a wireless device, as well as enable existing Domino applications, by using one of two methods: the Simple Mobile Design Tool or the Domino Designer. Choosing the appropriate method depends on the complexity of the desired application.

The Domino Everyplace Application design tool is located in the root of the Domino Data Directory on the Domino Everyplace Access Server. (You can copy the file DEASAppDesign.nsf file from the App_Design Directory to the data directory on your Domino Everyplace Access Server if you are not able to locate it.)

After designing your new Domino application, and adhering to the wireless device limitations mentioned in the previous section, you are ready to compile it using the DEAS Application Design Tool.

If you use the Simple Mobile Design Tool, you allow the application design tool to read all views and forms; it offers Domino Everyplace Access Server options based on its findings. These findings are used by Domino Everyplace Access Server to display the application on the wireless device.

7.3 Designing new Domino applications

You should use the Domino Everyplace Access Server Application Design Tool to design new Domino applications for wireless devices. You will need the following tools:

▶ The DEAS Application Design Database
▶ Notes R5 Client
▶ Domino R5 Designer

7.3.1 Using the Simple Mobile Design Tool

Using this method makes the task of converting a Notes application much easier, since the Domino Everyplace Access Server does all the work.
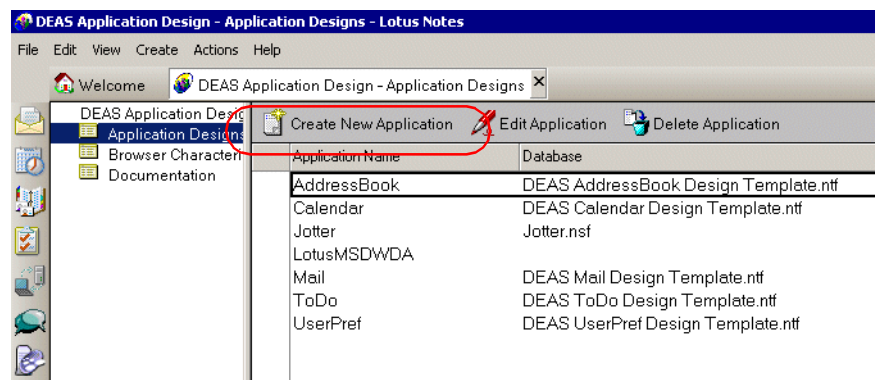
Figure 7-1   Create New Application button in the DEAS Application Design Utility

The application design tool contains all the utilities needed to design and build a wireless application. If you have an older version installed, the design utility will ask if you want to install the most recent version.

When you click **Create New Application** for the first time, the tool will try to locate a previous version of this tool. If not found, it will display a message asking if you want to install the latest application design environment tools to the specified location. (This message is shown in Figure 7-2.)
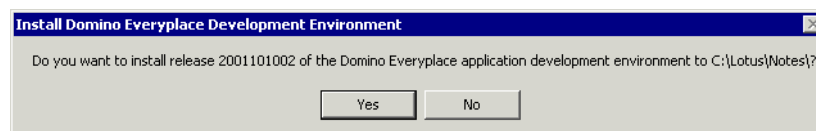
Figure 7-2   The application development environment tools install box.

Click **Yes** to install the application design tool to the specified directory. (This software can be installed in the Notes program directory or any other directory you choose.)

If a later version of the utility software becomes available in this database, the next time you use the database you will automatically be prompted as to whether you want to install this new software version on top of the old.

When making changes to the design tool, you must have designer access or above to complete these tasks. If you do not have access to this database, create a group in your Domino directory called DEAS Designers. This group, by default, is included in the access control list of this design tool with Manager access.

Designing an application using the Simple Mobile Design Tool

To design an application using the Simple Mobile Design Tool, follow these steps:

1. Open the application design tool and click **Create New Application** in the action bar (see Figure 7-1 on page 220).

2. After clicking **Create New Application** you will be taken to a new page which requires you to enter the information for the application you wish to compile. Click **Choose Target Database** and locate the database, or enter the location of the application yourself. Figure 7-3 shows the information you have to enter.
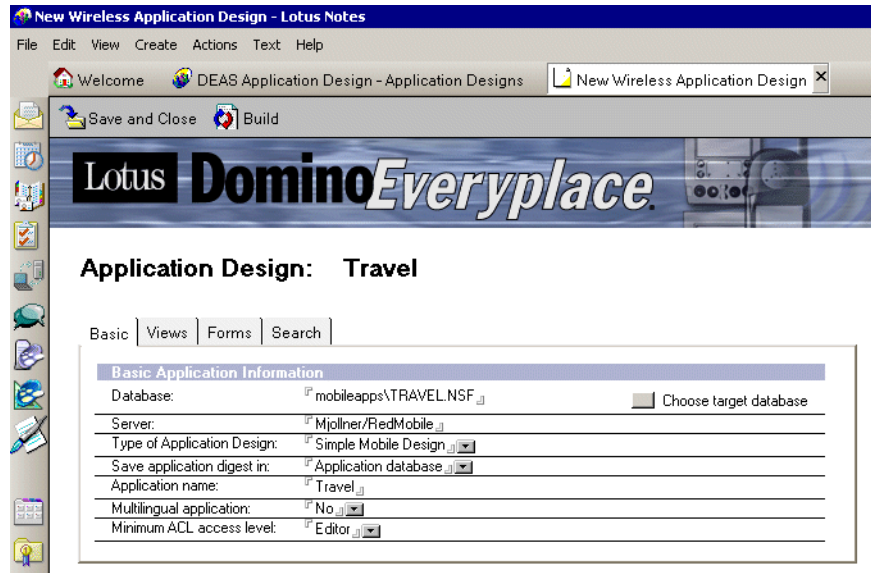
Figure 7-3   New Application Design document - Basic page

a. The Database and Server fields are automatically populated when you click Choose Target Database, or these fields can be entered manually.

b. The Type of Application Design field must be Simple Mobile Design if you are using the Application Design Tool.

c. The Save application digest in field specifies which application will contain the information when this utility has compiled the database.

d. Application name is the name known to Domino Everyplace Access.

e. The Multilingual application field indicates whether this application will contain multiple languages.

f. The Minimum ACL access level field specifies what access level the wireless user needs to access this database. If the access level specified from within the database's access control list is different from (or lower than) that specified here, the user will receive an `Access Denied` error message.

Note: The application name must not contain any characters other than alphabetic characters, and must not contain any spaces.

3. To proceed, click **View**.

4. The application will run an automated tool in the background, which verifies that the information you entered in the previous page is correct. If it is not, it will fail and you will have to enter the correct information.

Now you are ready to select the views you want to display in the database view fields. The View Name is what will be displayed on the wireless device. You have the option to display up to 5 different views on your wireless device. For each view that you select, you must click the **Configure** button at the end of the view row; see Figure 7-4 on page 223.
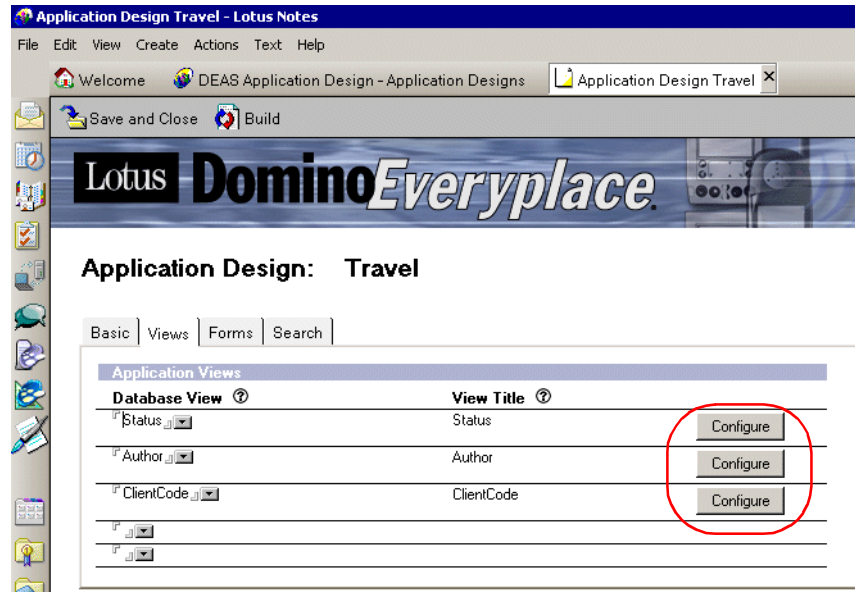
Figure 7-4   Application Design - View page

a. When you click Configure, a dialog box containing the configuration information for that particular view will be displayed. You can change any of the settings.

The pop-up dialog is made up of 3 pages: Basics, Columns, and Actions. Enter the appropriate information into the required fields. Most fields will already be populated—but do not take the default configuration since you might not want what has been included.

Figure 7-5   Basics page of configuring the status view

> i. The Basics tab contains display and sorting information.

> ii. The Columns tab contains information on what columns are to display.

> iii. The Actions tab specifies what the user is able to do when in that view. The available options are common tasks such as open document, delete document, and create document.

> **Tip:** Click the Question Mark "?" to display information about each column.

5. Once you have entered up to 5 views, and configured each of them, you must do the same for your forms.

   Click the **Forms** tab and select the forms you want to make available for the wireless device. Also select what fields you want the form to display.

   > **Note:** This will only make changes to the wireless application and in no way modify your existing application.

   You can enter up to 5 different forms. For each form, click **Configure**, and specify the fields the form is to display.
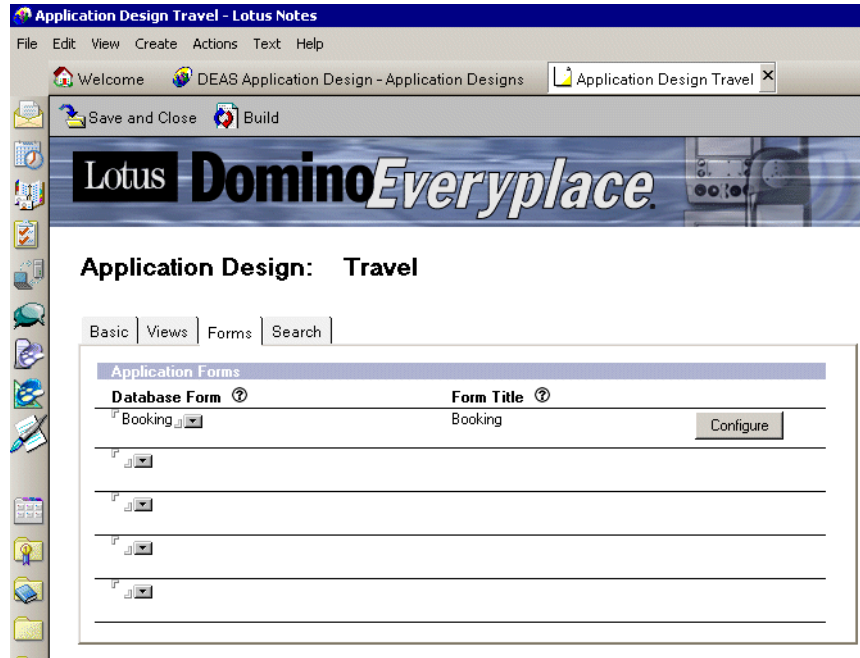
Figure 7-6   Database forms that will be used by the wireless devices

6. Click the **Search** tab and enter the names of the fields that you want your wireless users to search. If you decide to enable searching on a particular field, you must select a search action in the appropriate view shown in Figure 7-5 on page 224.
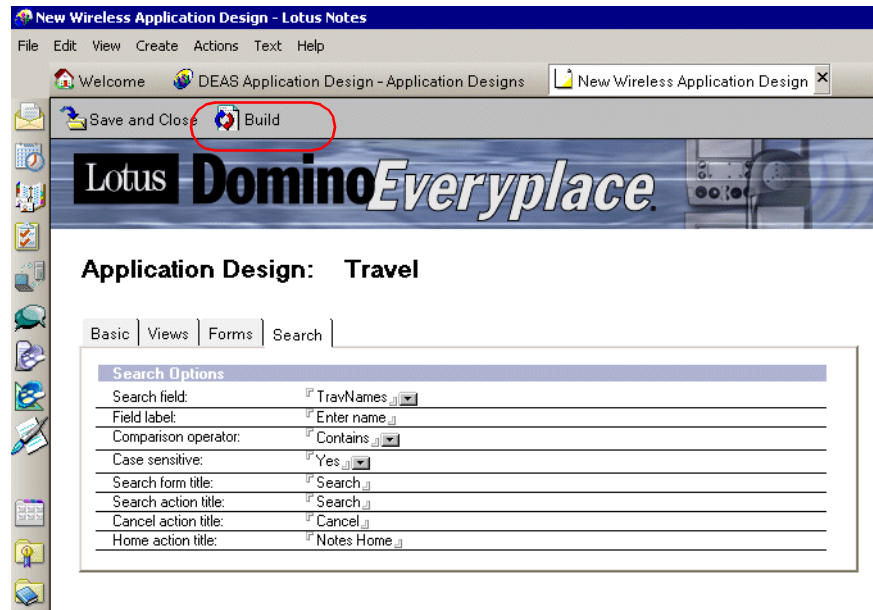
Figure 7-7   Searching information for a particular field

7. Once all the necessary information has been entered, click the **Build** button in the action bar. This will allow the application design tool to create notes on the way in which you want the application to be displayed to the wireless device, based on the information given in the previous forms. If you do not want to build the application yet, click **Save and Close**. This will create the new document in the application design document, but will not build the application. You can click Build at any time.
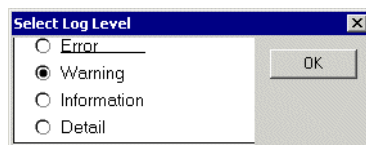
Figure 7-8   Various log levels

8. Once the application design document has successfully finished compiling your wireless application based on the browser types in the design database, you will notice a new button called View Log in the action bar. To see the compiling logs, click the **View Log** button to view the different log levels. You have the following options: Error, Warning, Informational, and Detail. Selecting any of these will display the respective log levels on the compiled

wireless application. If something went wrong here, this is a good way to work out where the compiling produced errors.

Figure 7-9   Build Log using the Simple Mobile Design Tool

9. Once you are finished viewing the Build Log, click **OK**. (Or, if you are in the main Application Design view, click **Save and Close**.
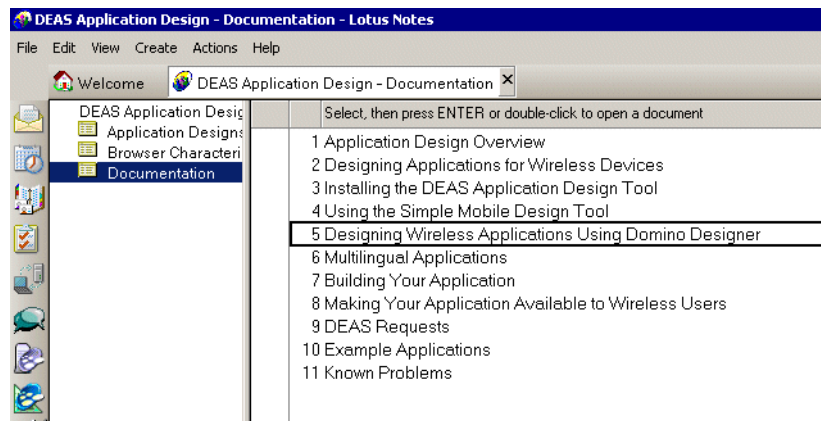
Figure 7-10   Application Design Utility Documentation

A complete guide on how to create and compile your wireless application is available in the Domino Everyplace Access Application Design Tool. To access it, simple click the **Documentation** view.

7.3.2 Using the Domino Designer Client

If your wireless application is going to be quite complex, then it is best to use the Domino R5 Designer client. When creating new applications using the Designer client, keep in mind that wireless devices have only a limited display, and memory and other limited capabilities; see 7.2, "Designing wireless applications" on page 218 for a complete list of device capabilities.

Designing a wireless application using Domino Designer is very similar to designing an application for a Notes client, but because of the different capabilities of the wireless device and the Notes client, there are inevitably some differences. These differences include the following:

► Some properties that can be assigned in Designer, and are supported on the Notes client, cannot be supported on a wireless device and will therefore be ignored. Examples include:

– Many form and field events are not supported.

– Many text markup options are not supported (for example, tables, lists, color, and indentation).

► Design information required by a wireless application, which has no equivalent in the Notes client.

► Variables that can be used in formulas (for example, hide formulas and action formulas) are different.

Using the Domino Designer to design wireless applications makes it possibile to further specify properties of forms and views, than when using the Simple Mobile Design Tool. Here is a list of design-specific features that can be implemented into your wireless forms:

► **The ability to dial a phone number**. Domino Everyplace Access Server has been enabled to allow a field to be populated with a phone number which you will be able to dial. This is a very handy feature since it saves you from having to first write down the phone number and then dial it.

► **Send e-mail to a user**. A field can represent an e-mail address that the user may want to send e-mail to. Rather than writing it down, you are able to use this field when populating a form.

► **Opening a form in edit mode**. If a form should always open a document in edit mode, set the Automatically enable edit mode property on the Advanced tab of the Form Properties dialog.

► **Text**. The common text attributes, such as bold, italic, underlined, and font size attributes are supported. Remember to ensure that your device supports these features before enabling them in the form since most devices only support a limited number of features.

- **Lookup Values for a Field form within the Address Book**. Domino Everyplace Access Server supports address book lookups and provides a link to the Domino directory, which will return the appropriate information.

- **Actions**. An action will only be displayed on the device if it is either displayed in the action bar or the action menu.

- **Action formulas**. Actions defined in Views or Forms are normally represented on the wireless device as soft key or button actions. This will depend on whether the device supports this feature.

> **Note:** Inside the Domino Everyplace Access Server Application Design tool database (DEASAppDesign.nsf) there is a complete guide to all the design features that are available and supported. Select the view **Documentation** and you see the list of topics.

Creating an application design document

Once you have created your application (ensuring that you have followed the guidelines when creating your wireless database), it is time to create an application design document using the application design tool.

Follow these steps to create you application design document after you have used the Domino Designer to create your application.

Figure 7-11   DEAS Application Design Tool icon

1. Open the Domino Everyplace Access Server Application Design Tool on the server by clicking the icon shown in Figure 7-11.

2. Click the view **Application Designs** and then click the **Create New Application** button located in the action bar. If you do not have the latest application design environment tools, they will be copied to your specified local directory.
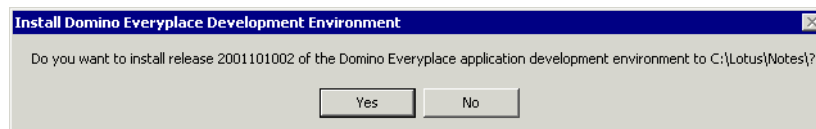
Figure 7-12   Domino Everyplace Development Environment tools prompt

3. Locate the database by either clicking the **Choose Target Database** button or typing the information. If you use the Choose Target Database button, this will populate the Database and Server fields with the selected database.

4. The Type of Application design must be Domino Designer if you will be using the database created with the Domino Designer client.

5. The application digest is the information compiled about the forms, views, fields, and formatting used by the wireless device. When you build your application, this information is used by DEAS to quickly respond to your requests. This information, or digest, can be saved in either the application database or the DEAS Application Database.

   The field Save Application digest in should always be set to Application database. This is selected by default and should be used all the time. (The only time you would not select this type is if the application is spread over multiple applications.)
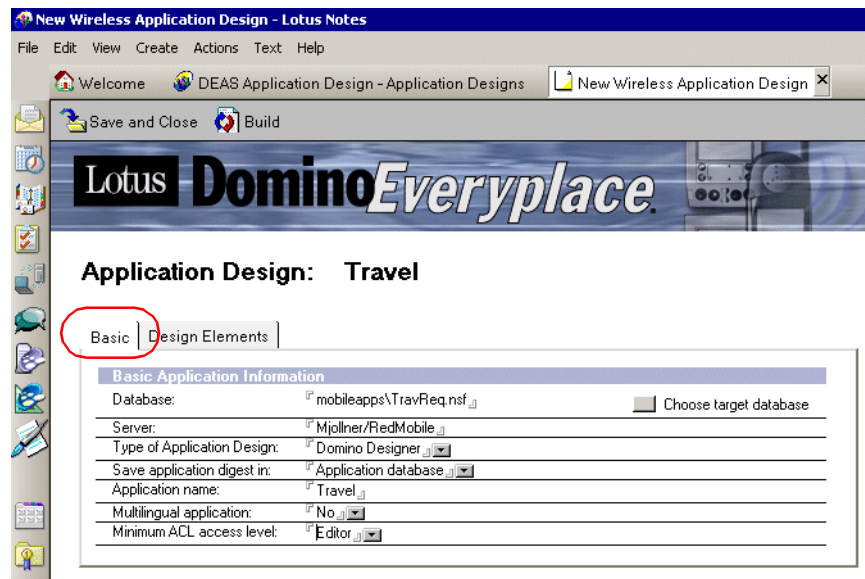
Figure 7-13   Application Design document - Basics page

6. The Application name is the name known to Domino Everyplace Access. This must only contain alphabetic characters and must not include spaces. This name is cross-referenced when you create the application document and the users' home pages in the Domino Directory.

7. Multilingual application indicates whether this application will be used for multiple languages. The language information is specified in the users' person documents or from the language setting on the wireless device. If

Domino Everyplace Access Server cannot find an appropriate match for your language, the default is selected. Select **Yes** if you require the application design tool to compile the application for all your installed languages. Select **No** if you want the application design tool to compile for the default language.

8. Select the Minimum ACL Access Level required to access and use your wireless application. If the user has a lower access control level specified than that in the Minimum ACL Access control field, the request will fail and the user will receive an `Access Denied` error message.

9. Next, click the **Design Elements** tab.

10. Within the Design Elements page, all fields must be filled out. Click the drop-down list to select all the views that you have designed for your wireless application. Domino Everyplace Access Server uses aliases to identify which views to display.
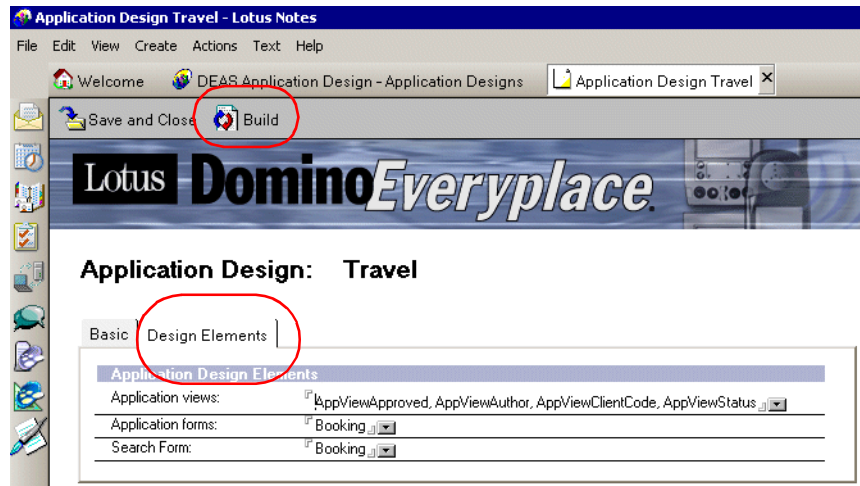
Figure 7-14   Application Design document - Design Elements page

11. Click the drop-down list in the Application forms field to display a list of all the forms that you have created for your wireless application.

12. Use the Search Form field to select the forms that will contain the view search formula for the application.
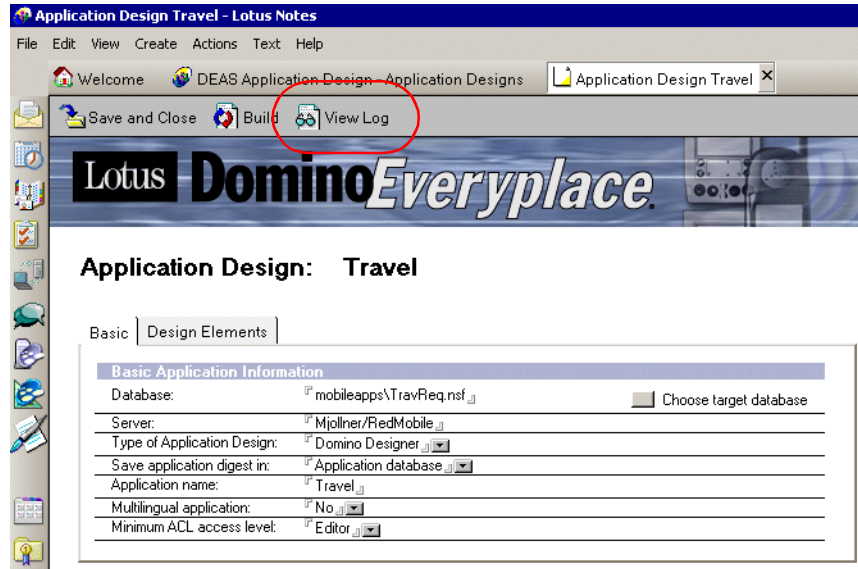
Figure 7-15   Application Design Document - View Log

13. Once this is all complete, click the **Build** button located in the action bar. This will compile the application using the application design tool. Once compiling is complete, you may click on the **View Log** button located in the action bar to view the various log levels. (This button will only become available after you have compiled your application.)

14. Click **Save and Close**. This will save the application digest in the application design database. You now need to create your application document and modify your users' home pages in the Domino Directory.

7.3.3 Creating customized portals

Once the application has been created and compiled, you need to create an application design document in the Domino Directory and also change the home page that the users see when logging into the Domino Everyplace Access Server.
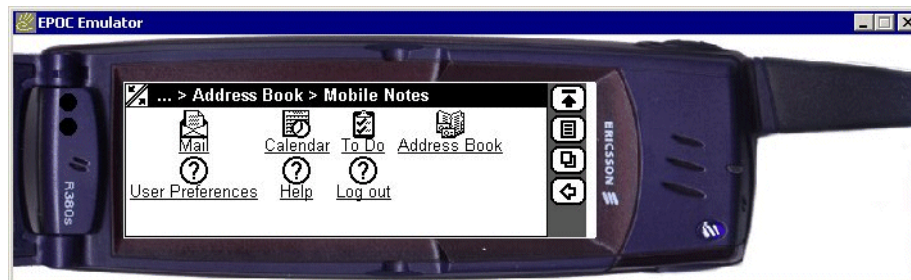
Figure 7-16   Default Mobile Notes home page

If you have decided to use Domino Everyplace Access with the default links, then your home page will look like Figure 7-16.

Figure 7-17   Modified Mobile Notes home page

If you want to create several portals into Domino Everyplace Access (for instance, one for each division of your company, or perhaps you require specific access to a special application), then you can set up Domino Everyplace Access so that the home page looks like Figure 7-17 for either one user, or a group of users.

Figure 7-18   Modified Mobile Notes Home Page on the Nokia 6210

New to Domino Everyplace Access 2.1 is the use of icons with links. If your handset does not support displaying icons, then it will use the application names as links, as shown in Figure 7-18.

Creating an application design document

After you have compiled your application, you must create an application design document by using either the Domino Everyplace Access Server application design utility or the Domino R5 Designer client.

To create an application design document, you need manager access to the Domino Directory. Follow these steps to create an application design document:

1. Within the Domino Directory, click **Mobile -> Applications -> Add Application**.
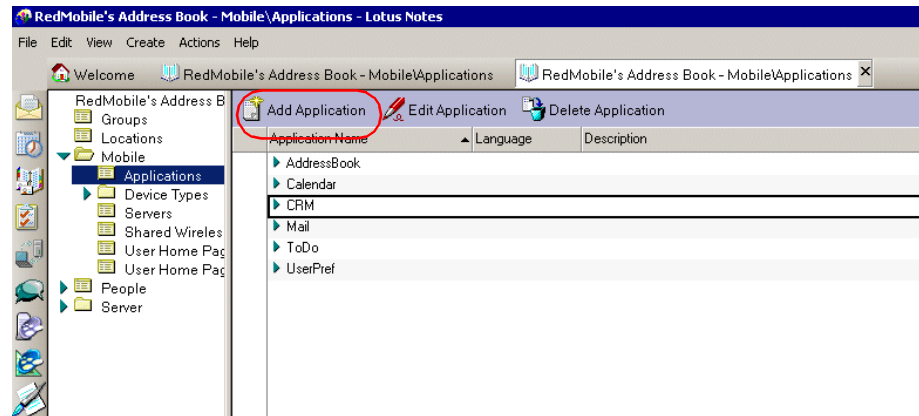
Figure 7-19   Mobile Application view

2. You will be taken to a new screen on the Basics page. Click the Application Name drop-down list. This will open a pop-up screen with the current applications that have already been compiled using the Domino Everyplace Access Server application design tool. Click the name of the application that you are enabling for your wireless users.
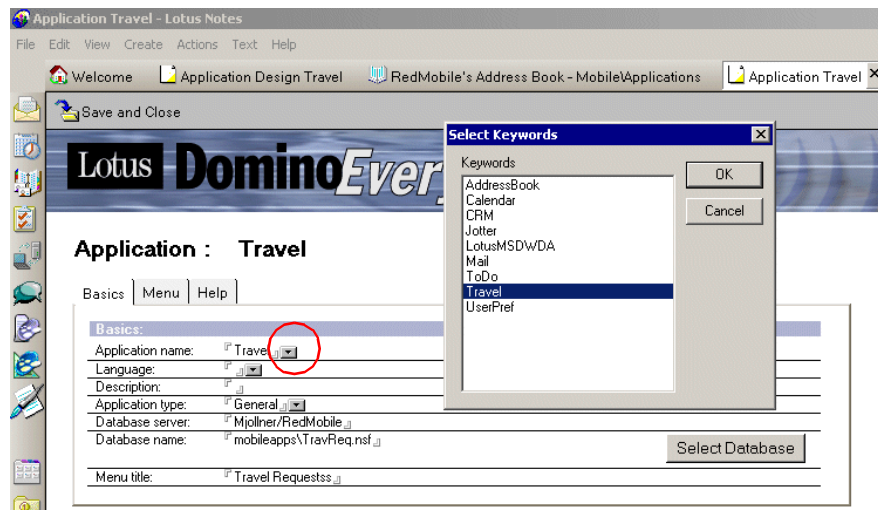
Figure 7-20   Creating a new application design document

3. Language can either be your typical spoken language or the default language. Leave this field blank to use the default language, or enter your chosen language.

4. Select General for the Application Type. A **Select Database** button will appear; click this button to locate your wireless application.

5. Enter the title of the Menu. When complete, click the **Menu** tab.

Figure 7-21   Domino Directory - New Application Document, Menu page

6. This screen is where you specify the options that will appear on your application's main menu. You need to enter the option title, type of option it is, and the syntax behind the option. You have the following Option Types available:

   a. **View** opens a particular view that has been compiled by the application design tool.

   b. **New Document** will take you to a new document based on a particular form.

   c. **Search** allows you to search a specific view and field.

   d. **Application Help** shows the help about that particular application.

   e. **Other DEAS Request** specifies a request based on customized variables which are not available in the other option types. See "Domino Everyplace

Access Server requests” on page 347, which lists the various types of requests and their appropriate syntax.

7. If you have decided to select the option type Application Help, click the **Help Page**, type the Title of the Help page, and enter text about that particular application.
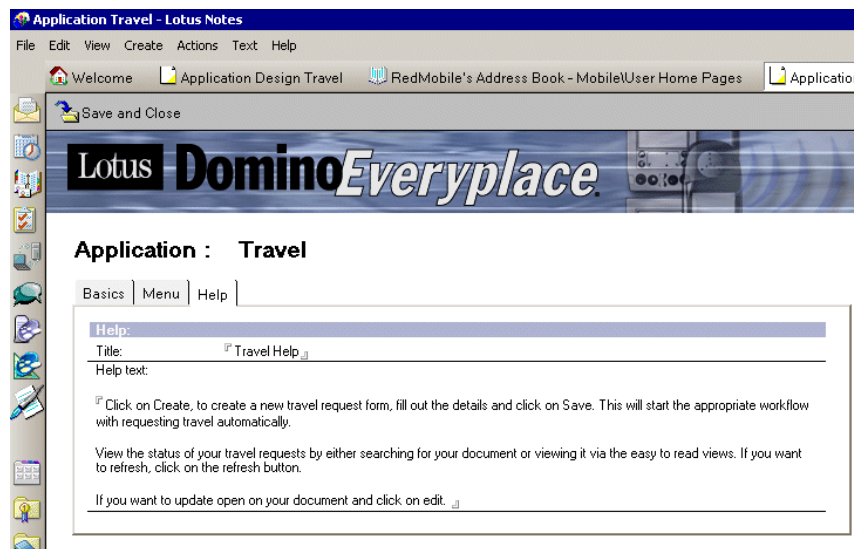
Figure 7-22   Application help

8. Click **Save and Close**.

You have now created the application design document for your wireless device.

Creating additional home pages

To modify existing users’ home pages or to create additional home pages for other applications, you must have manager access to the Domino Directory.
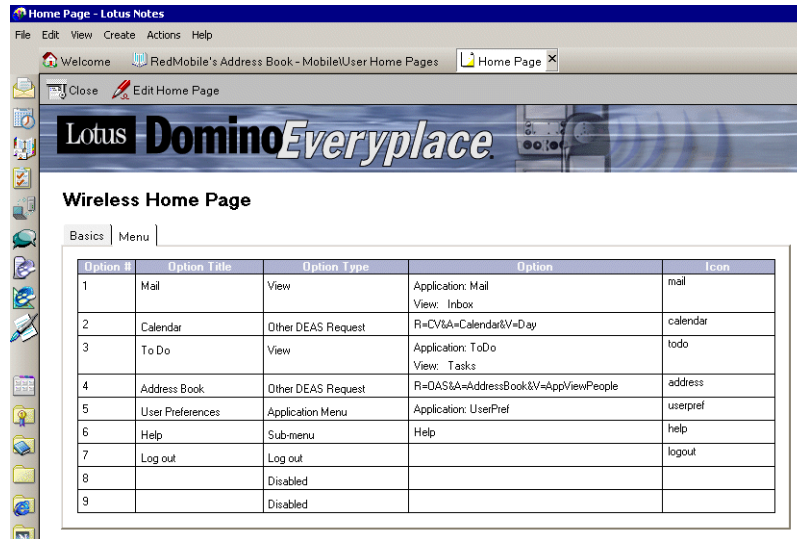
Figure 7-23   Default Home Page with Mail and directory options only

The default Home Page was already enabled in Domino Directory when you installed the access server. All users that know their username and http password, along with the WAP gateway settings and URL to access the Domino Everyplace Access Server, will be able to log on to the Domino Everyplace Access Server. Provided that the Domino Everyplace Access Server is listed as a manager in the user's access control list of their mailfile, they will be able to use the access server with all the default links.

You can customize the access server to enable multiple home pages or portals into a wide range of wireless links. A home page can be customized for each particular user or group. Obviously, for larger organizations, you would not want to have thousands of home page documents; it would make much more sense to create a home page for a group of people or a department.

People who have been placed in a particular group will not get the default home page that was created when you installed Domino Everyplace Access Server; instead, they will have their own specific page to links that are associated with their particular working styles. Users who are not assigned to a group will get the default home page.

Another option is to remove the default home page and only have customized home pages, which would mean that if a user does not exist in any group, they will not have access to any home pages and will therefore not be able to use the Domino Everyplace Access Server.

Follow these steps to create a new home page:

1. Open the Domino Directory and create a group for your wireless users. This can be either a generic wireless group or a division of your company, whichever you choose.

2. Click the view **Mobile** and **Users Home Pages**. This will display a list of the installed languages. You must select the language that will be specified on the handset, otherwise your users will get their specified home page for the language which is set in their phone.
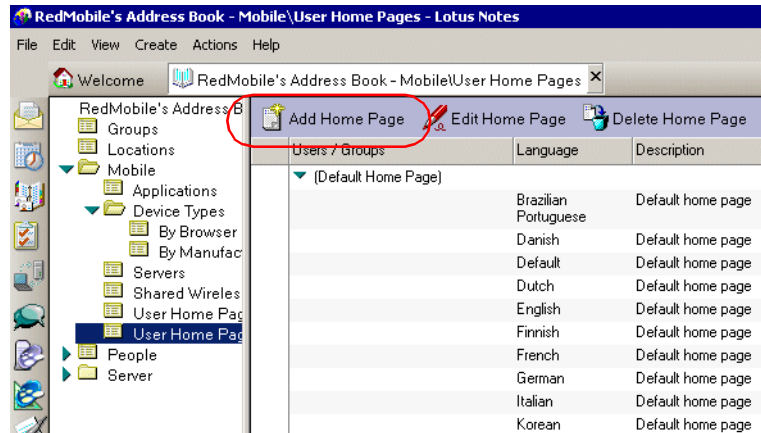
Figure 7-24   Default home pages in the Domino Directory

3. You can either modify the default home page or create a new one. Creating a new home page is recommended to ensure that, if you are using groups, they still have access to the basic links that Domino Everyplace Access provides. You can, however, copy the default home page and then modify the duplicated document, or click the **Add Home Page** button located in the action bar.

4. Enter the group name that you created in step 1 in the User/Group names field for this new home page.

5. Select the language that will be used by the handset. If you are required to use multiple languages, you must create a document for each installed language. You can copy and paste the previous completed home page and just change the language field.

6. Click the **Menu** tab and enter the option type. You have the following types available:
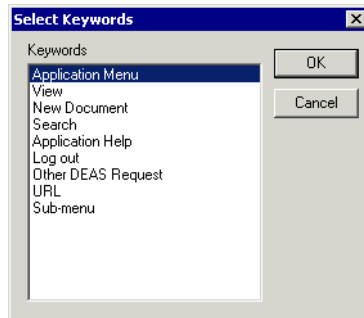
Figure 7-25   Home Page Option types

    a. **Application Menu** displays the main menu of an application.

    b. **View** displays a particular view.

    c. **New Document** creates a new document based on a particular form.

    d. **Search** displays a search form.

    e. **Application Help** displays the application help form.

    f. **Logout** closes your DEAS session and takes you back to the login screen.

    g. **Other DEAS Request** is for requests that are not associated with any other option type.

    h. **URL** allows you to specify a URL of a different wireless application.

    i. **Sub-menu** displays a sub-menu.

7. Select the option based on the option type that you entered.

Wireless Home Page

Basics | Menu

Option #	Option Title	Option Type	Option	Icon
1	Mail	View	Application: Mail View: Inbox	mail
2	Travel	Application Menu	Application: Travel	everyplace
3	MobileCRM	Application Menu	Application: CRM	deas
4	Address Book	Other DEAS Request	R=OAS&A=AddressBook&V=AppViewPeople	ephone
5	User Preferences	Application Menu	Application: UserPref	deas
6	Logout	Log out		logout
7		Disabled		
8		Disabled		
9		Disabled		

Figure 7-26   Customized Home page

8. If you have any Wireless Bitmaps (WBMP) that you can associate with your wireless application, then type the file name without the extension in the icon field. The extension must be wbmp and should be located in the data\domino\icons\ directory.

9. Enter the Option Title that will be displayed on the page.

10. You can enter up to 9 options for each home page.

11. Once complete, click **Save and Close**.

You will have to restart the Domino Everyplace Access Server in order to have access to these new home pages.

> **Note:** If wireless users are not in any groups, they will obtain the default mail and Domino Directory links through the language setting on their wireless devices.

8

Sametime Everyplace integration sample application

This chapter describes the sample application that we built to demonstrate the capabilities of mobile-enabled Notes applications. We discuss how we enabled our sample application to have Sametime awareness capabilities.

In this chapter we discuss the following:

► Enabling Notes applications for Sametime

► Using Sametime Java applets

8.1 Description of the application

Mobileware is a medium-sized company that uses the power of Notes applications for their internal workflow. They have a Travel Booking workflow application that controls the whole process of their employees' travel requests.

Sarah booked her trip to Brisbane two days ago. She used the Notes client on her desktop to choose the departure and arrival dates and times. Figure 8-1 shows an example of the Travel Request form.

Figure 8-1   Travel request

Her request was forwarded to her manager, who examined it and approved the trip.

Then the travel booking request was forwarded to Mark, the person responsible for travel arrangements. Mark opens the travel request and calls the travel agency. The travel request form is Sametime-enabled, so Mark sees that Sarah is online, because her name appears in green text on his screen. Figure 8-2 on page 245 shows an example of that.

Figure 8-2   User online in the Travel Request form

While arranging the flights and hotel reservations, he learns that there are no seats on flights at the departure time she asked for. As the application is Sametime-enabled, he knows that she is online via her desktop or her mobile device. The travel agency says that they have seats on a flight that leaves three hours before Sarah's preferred departure time. But there are not many left, and they could be reserved any minute.

With the travel agent on the phone, Mark clicks Sarah's name on the travel booking document and opens a chat window. In the chat window (Figure 8-3) he receives a message from Sametime Everyplace, saying that Sarah is mobile right now.
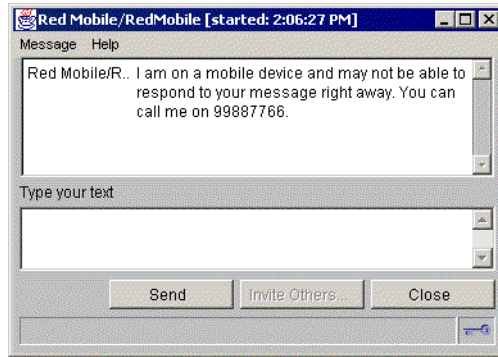
Figure 8-3   Instant chat window triggered from the Travel Request form.

Mark is worried because if he takes too long to reserve the ticket, he might not be able to get it anymore. He sends a message to Sarah, asking if she is able to travel three hours before. At the moment, Sarah is on her way to visit a client. She gets the message in her phone (Figure 8-4).

Figure 8-4   Receiving a message in the mobile device

She checks her schedule and notices that she does not have any appointments that day. Using her mobile phone, she sends a message back to Mark, saying that it is fine, as shown in Figure 8-5 on page 247.
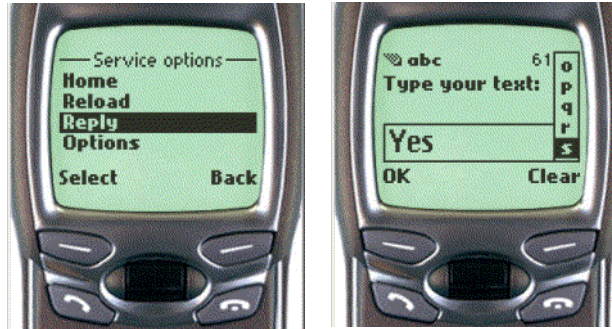
Figure 8-5   Replying to a message in the mobile device

Mark gets the message (Figure 8-6) and confirms the ticket reservation with the travel agency.
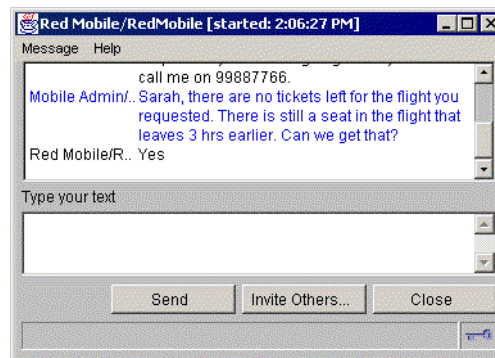
Figure 8-6   Receiving a message from a mobile device

By using Sametime Everyplace and integrating it into existing productivity applications, Mobileware shortens the time needed to complete workflows. Sarah learned almost instantaneously that she will have to travel three hours earlier and will have more time to organize her tasks. Mark managed to get Sarah a ticket because of her instant response to his question. If they had waited until she got to the office, she might not get to travel that day.

8.2 Technical description

For this example application, we created a Travel Booking application, the same one that is used in the Mobile Booking sample. Then we added Sametime awareness capabilities by enhancing the Booking form with an awareness Java applet.

8.2.1 Sametime-enabling the database

To enable the database for Sametime, there are agents, shared libraries, and scripts you have to add to your database. We followed the instructions given in Appendix A, "Enabling your Notes Applications," which is found in the *Sametime 2.5 Java Toolkit Developers Guide*. Those steps are thoroughly documented, but here we provide more information about adding a Sametime applet to the form.

8.2.2 Inserting the Java applet

While Sametime-enabling a Notes application, use care when inserting Sametime Java applets because there are some issues involved. You can either import the applet directly from the file system, or put it in the Resources - Applets view in your Notes database, or even link to an applet on a Web server. When the applets are inside the Notes database, they can be replicated along with everything else.

We used an applet called ActiveNamesApplet. This applet is used in the Sametime TeamRoom template that is installed with Sametime. It makes use of two archive files: VpApi.jar and ActiveNames.jar. (VpApi.jar is actually the old Sametime API.)

Using Domino Designer, open the form where you want to insert the applet (the same form that has the stToken hidden field we added in Step 1). Select the **Create** - **Java Applet** menu.

For Sametime applets, we highly recommend that you keep them in the Sametime server. In our case, the applet was already in the server. Sametime installed it in the /Data/domino/html/sametimeapplets/ folder.

We clicked the **Link to an applet on a web server** option, then we entered the URL for the applet in the Base URL field, and the name of the applet in the Base class name.

> **Important:** You have to use the full class name here. This Sametime applet is a part of a package, so you have to use the name of the package and the class. In this case, the full name of the class is: com.lotus.sametime.activenames.ActiveNamesApplet.class

The ActiveNamesApplet accepts the following parameters:

archive   Lists the classes or jar files that this applet depends on. Use VpApi.jar,ActiveNames.jar

names   Names of people you want to watch for online presence

font	Font used in the applet
status_settings	Colors used to display users' statuses.
nickname	Name of the user that is logging on to Sametime through this applet
token	Token created for the user that is logging on to Sametime through this applet
bgimage	The URL of a background image
bgcolor	Background color
showicon	Boolean that indicates the use of icons
user_regexp	Regular expressions - not used in this example
user_replacement_rule	Not used in this example
sametimeserver	URL of the Sametime server

In addition, we added a "codebase" parameter, following the instructions given in Appendix A of the Sametime 2.5 Java Toolkit documentation.

After the Java applet is added to the form, clicking it will show its parameters in the bottom frame; see Figure 8-7 on page 250. By default, all Java applets start with a size of 200 pixels by 200 pixels. We only needed it to show a single user's status, so we resized it to fit a single person.
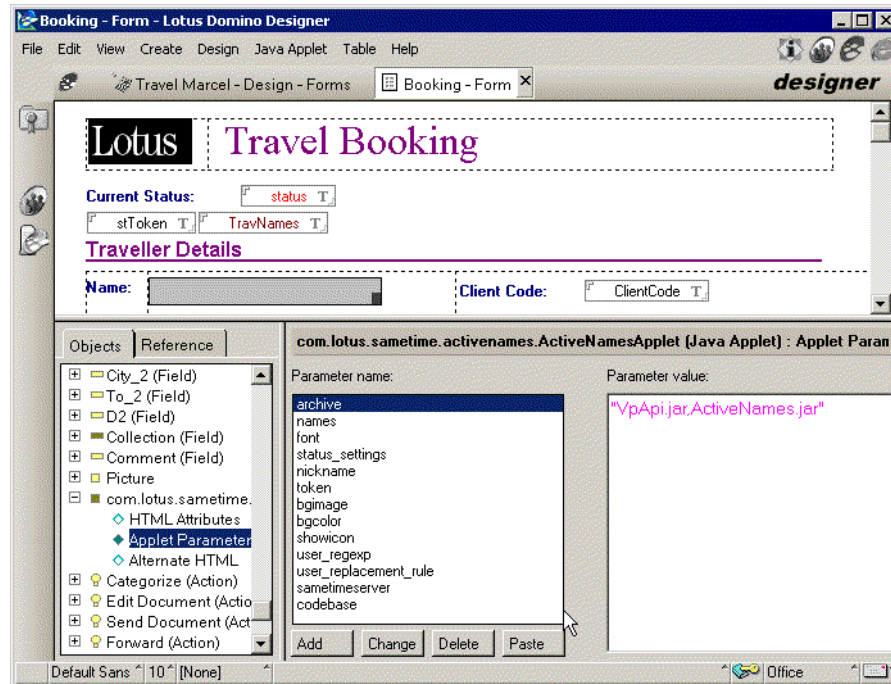
Figure 8-7   Java Applet parameters

We added the parameters and gave values to them. Open the Booking form in the sample database to see the values we used for the parameters.

You probably do not have to make many changes to get this example to work in your environment since we used a formula to read the Sametime server name from the active user's Person document. Just make sure the users have that field filled in their Person documents.

Part 3

Mobile applications

Domino Everyplace Enterprise server is a product that makes it possible to build and deploy mobile applications based on their Domino counterparts. In this part we describe the installation of Domino Everyplace Enterprise. We also describe how to make an existing Domino application available on a PDA as a mobile application.

9

Domino Everyplace Enterprise

Domino Everyplace Enterprise is a set of products that provides the tools to develop Domino applications, to administer Mobile Notes applications to users, to run Mobile Notes applications on a handheld device, and to synchronize Mobile Notes applications.

9.1 Overview of Domino Everyplace Enterprise

The following gives you an overview of Domino Everyplace Enterprise.

9.1.1 Domino Everyplace Enterprise components

Domino Everyplace Enterprise consists of three components:

► The Domino Everyplace Enterprise Mobile Application Designer

► The Domino Everyplace Enterprise server

► The Mobile Notes client

Domino Everyplace Enterprise Mobile Application Designer

The Domino Everyplace Enterprise Application Designer is a development tool that creates Mobile Notes applications for a handheld device. It enables the application developer to specify forms and views for the Mobile Notes application, to test the application on a PDA or emulator, and to publish the application's profile to a Domino Everyplace Enterprise Administration database on a Domino Everyplace Enterprise server.

Domino Everyplace Enterprise server

The Domino Everyplace Enterprise server is an HTTP servlet that provides synchronization services for Domino servers. The Domino Everyplace Enterprise server can run on top of any type of Domino server (mail, application, or enterprise server). The Domino Everyplace Enterprise server includes the Administration database for administrating Mobile Notes applications to users. Mobile Notes users connect to the Domino Everyplace Enterprise server to load and to synchronize their Mobile Notes applications.

Mobile Notes client

The Mobile Notes client provides the Lotus Notes functionality for your PDA. With Mobile Notes, you can create, modify, and delete Notes documents from your Mobile Notes applications. When you connect your PDA to the Domino Everyplace Enterprise server, you can synchronize your applications from the Mobile Notes interface.

> **Restriction:** Palm Vx, IIIxe, m500 or m505, IBM Workpad C3, Compaq iPaq 3100 and 3600 series, Casio E-115, E-125 and EM-500 and Nokia 9210/9290 Communicator are currently suppoorted. Lotus plan to support new Compaq and Casio running Pocket PC2002 and new Nokia Communicator devices.

9.2 Domino Everyplace Enterprise installation

Before installing Domino Everyplace Enterprise server, you should ensure that the following requirements are met.

9.2.1 Server-based requirements

The following is a list of requirements for the server configuration of Domino Everyplace Enterprise:

► 1 GB free disk space

► 512 MB memory

► Windows 2000 or Windows NT 4.0 with Service Pack 5 or higher

► Domino 5.0.6 or higher (we used Domino 5.0.8)

9.2.2 Pre-installation requirements

The Domino Everyplace Enterprise server is an HTTP servlet that runs on top of Domino. Hence a Domino server should be installed on the machine before you install the Domino Everyplace Enterprise server. This Domino server should be configured as a Web server with support for Java servlets. You should also change the Domino Directory so that administrators can access the Domino Everyplace Enterprise Administration database. The Domino Everyplace Enterprise Administration database is used when performing the major administrative tasks for Domino Everyplace Enterprise. The following describes how to configure the Domino server correctly.

Configuring the Domino server

The following steps let you configure the Domino server to support Java servlets.

1. Select **File, Open Server** from the Domino Administrator and select the Domino server you will be installing the Domino Everyplace Enterprise server on.

2. Select **Current Server Document** on the Configuration tab.

3. Select **Edit** and go to the Domino Web Engine tab on the Internet Protocols tab.
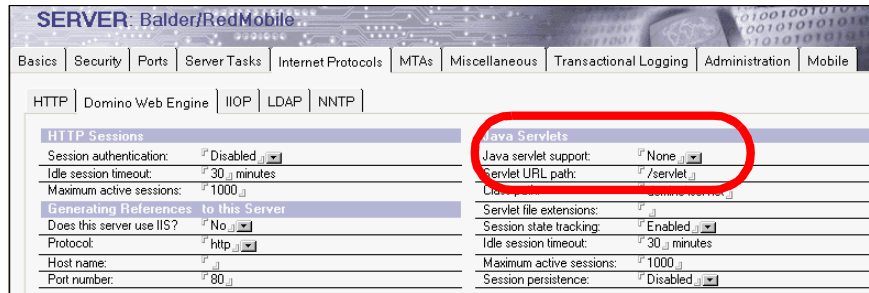
Figure 9-1   Java Servlet support

4. Select **Java Servlet Support**. Press the **Space** key or click the list box button to cycle through the possible values.

5. You should not change the Servlet/URL path.

6. Click **Save and Close**.

Configure the Domino Directory

You must create the Domino Everyplace Enterprise Admin group and add the names of the application developers and administrators who will publish or manage Mobile Notes applications or manage users of these applications. The following steps take you through the process of creating the group.

1. Select **File, Open Server** from the Domino Administrator and select the Domino server you will be installing the Domino Everyplace Enterprise server on.

2. Select **Add Group** from the Groups View on the People & Groups tab.
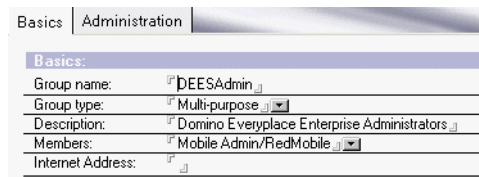
Figure 9-2   Adding Domino Group

3. **Group name** must be entered as DEESAdmin.

4. Fill in the **Members** with the names of the developers and administrators of the Mobile Notes applications.

9.2.3 Installation options

Table 9-1 shows the different components available to install.

Table 9-1   Domino Enterprise Everyplace Installation Components

Option	Description	Where to install
Desktop	Installs the Domino Everyplace Enterprise Mobile Application Designer to develop applications for the PDA.	On a PC running Domino Designer 5.0.6 or higher.
Device	Installs Mobile Notes on the PC. Has to be installed on the PDA using the appropriate installation tools.	On a PC. To install files for devices running PalmOS, the Palm Desktop has to be installed. To install files for devices running Pocket PC, MS ActiveSync has to be installed.
Server	Installs Domino Everyplace EnterpriseS on a Domino server to administer applications.	On a server running Domino 5.0.6. or higher.
Sync Router	Installs the Sync Router on a PC which enables the PDA to connect to Domino Everyplace EnterpriseS through a serial port connection.	On a PC.

9.2.4 Domino Everyplace Enterprise server installation

The following procedure takes you through an installation of the Domino Everyplace Enterprise server. The installation of the desktop components will be described later.

Important: Review the settings carefully. Remember to shut down any running Lotus Notes or Domino programs before continuing.

Figure 9-3   Domino Everyplace Enterprise Welcome

1. Insert the Domino Everyplace Enterprise CD in the CD-ROM drive. The installation program should launch automatically. If not, run

   `<CD-DRIVE>\SETUP.EXE`

   to start the installation manually.

2. Click **Next** to proceed with the installation.
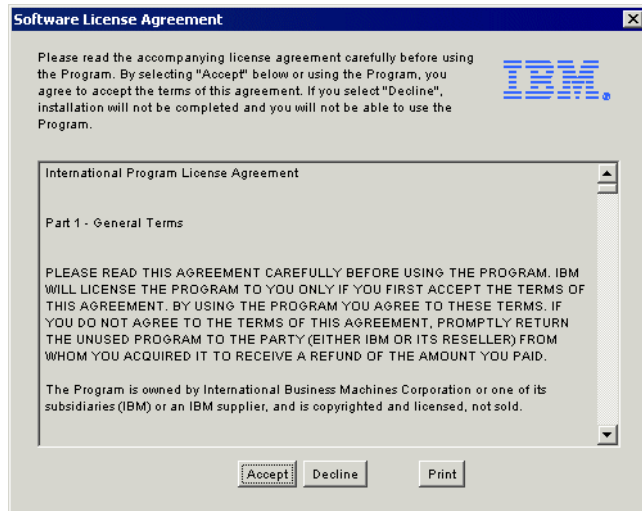
Figure 9-4   Domino Everyplace Enterprise License Agreement

3. Read the License Agreement carefully. Click **Accept** to proceed when done.
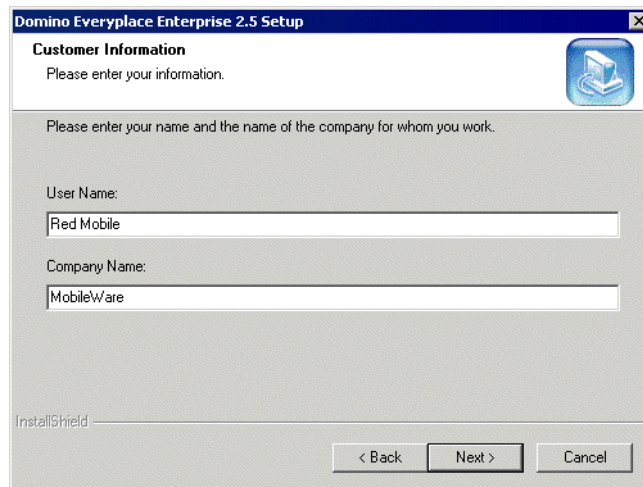
Figure 9-5   Domino Everyplace Enterprise Customer Information

4. Enter **User Name** and **Company Name** in the designated edit boxes.
5. Click **Next** to save the customer information and proceed.
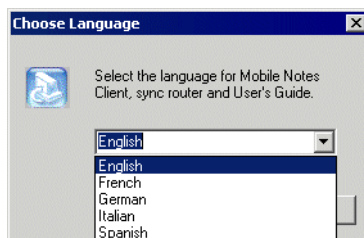
Figure 9-6   Domino Everyplace Enterprise Language selection

6. Select a language for the Mobile Notes clients, the sync router, and the User's Guide.
7. Click **Next** to save the selected language and proceed.
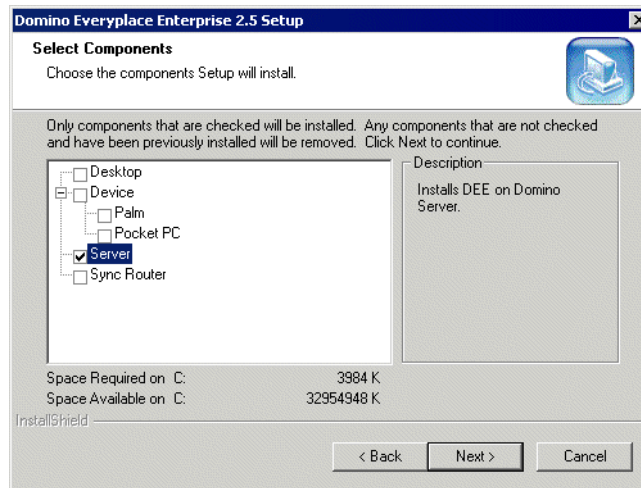
Figure 9-7   Domino Everyplace Enterprise Installation Components

8. Select **Server** as the only component to install.

9. Click **Next** to save the selection and proceed.
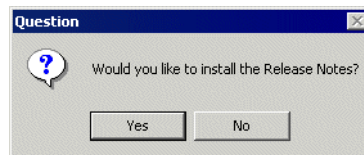
Figure 9-8   Domino Everyplace Enterprise Release Notes

10. Click **Yes** to install the Release Notes. You should install the Release Notes because they hold the latest information about Domino Everyplace Enterprise.

The installation is now ready and will copy the components to your PC.
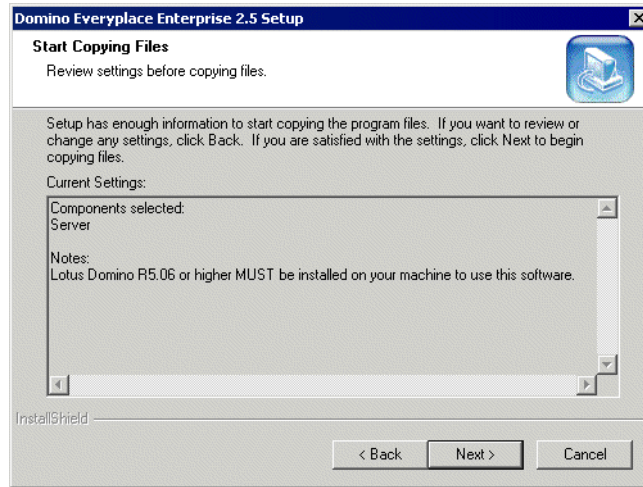
Figure 9-9   Domino Everyplace Enterprise Installation Settings

11.Click **Next** to proceed when you have read the installation settings. Server
   should be the only component shown as selected.

The files needed for the Domino Everyplace Enterprise server are now being
copied.

Figure 9-10   Domino Everyplace Enterprise Installation Complete

12. The Domino Everyplace Enterprise server installation has now completed. Click **Finish** to close the setup window.

Attention: When the Domino Everyplace Enterprise installation has finished, you will be asked to register your Domino Everyplace Enterprise. Please take time to register your version.

9.3 Domino Everyplace Enterprise client installation

This section describes the installation of the Domino Everyplace Enterprise components required on a PC to develop, install and test applications for Mobile Notes on the wireless client.

Before the installation of the components you should ensure that the following requirements are met on the PC and on the handheld device.

9.3.1 PC-based requirements

The following is a list of the different requirements for Domino Everyplace Enterprise Mobile Application Designer, Mobile Notes for the PDA, and the Sync Router.

Domino Everyplace Enterprise Mobile Application Designer
PC

► 40 MB free disk space

► 512 MB RAM

► Windows 98, Windows 2000 or Windows NT 4.0 with Service Pack 5 or higher

► Lotus Notes and Domino Designer release 5.0.6 or higher (we used release 5.0.8)

Mobile Notes
The following is required for the handheld (see for compatible devices):

Palm-compatible device (PalmVx, Palm IIIxe, Palm m500, IBM Workpad C3)

► 1 MB memory available

► Palm Desktop 4.0 or higher

► Palm0S 3.5 or higher

> **Tip:** Palm Emulator (POSE) 3.0a.7 or higher configured with a PalmOS 3.5 ROM and 8 MB memory is recommended for testing purposes. See Section , "Emulators" on page 364.

Pocket PC-compatible device

► MS ActiveSync 3.5 or higher

► Pocket PC 3.0 (Pocket PC ROM upgrade 1.77) or higher

► 16 MB RAM on the PDA

► TCP/IP connection from PDA to network

> **Tip:** Remote Display Control for Windows CE and Pocket PC is recommended for testing purposes. This is *not* an emulator, but lets you remotely control your docked Pocket PC device on your PC. See Section , "Emulators" on page 364.

Sync Router on PC

► Disk space: 3 MB

► TCP/IP connection to a Domino server

9.3.2 Pre-installation requirements

The installation procedure fails if the appropriate desktop tools for Palm or Pocket PC devices is not installed.

Palm Desktop 4.0 or higher must be installed and configured prior to the installation of Mobile Notes for the Palm devices.

MS ActiveSync 3.5 or higher must be installed and configured prior to the installation of Mobile Notes for the Pocket PC devices.

9.3.3 Client components installation

The following procedure takes you through an installation of Domino Enterprise Everyplace Application Designer, Mobile Notes for Palm and Pocket PC-compatible devices, and the Sync Router. The installation procedure is similar to the Domino Everyplace Enterprise server installation.
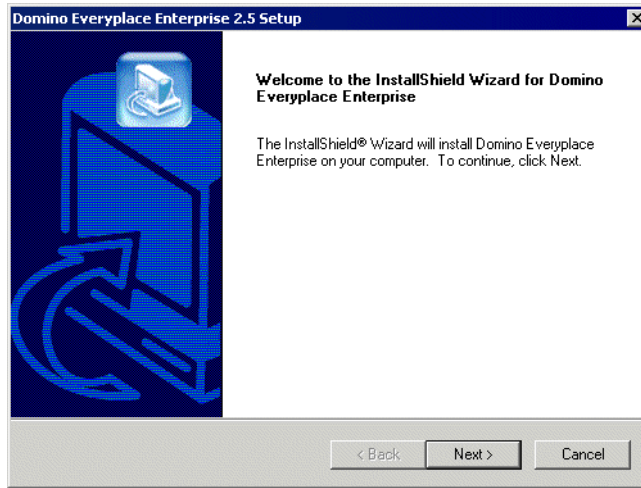
Figure 9-11   Domino Everyplace Enterprise Welcome

1. Insert the Domino Everyplace Enterprise CD in the CD-ROM drive. The
   installation program should launch automatically. If it does not, run

   `<CD-DRIVE>\SETUP.EXE`

   to start the installation manually.

2. Click **Next** to proceed with the installation.

Figure 9-12   Domino Everyplace Enterprise License Agreement

3. Read the License Agreement carefully. Click **Accept** to proceed when done.
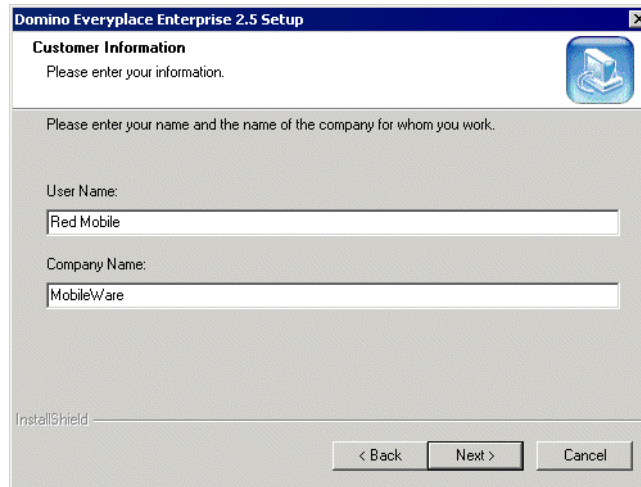
Figure 9-13   Domino Everyplace Enterprise Customer Information

4. Enter **User Name** and **Company Name** in the designated edit boxes.
5. Click **Next** to save the customer information and proceed.
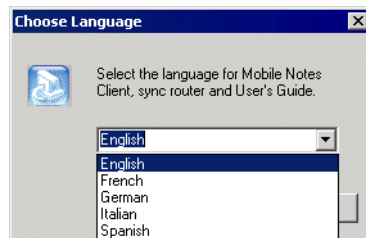
Figure 9-14   Domino Everyplace Enterprise Language selection

6. Select a language for the Mobile Notes clients, the sync router and the User's Guide.
7. Click **Next** to save the selected language and proceed.

> **Important:** At this point you have to decide which devices you would like to support. Remember that the appropriate desktop installation tools have to be installed prior to this installation.

The following will install all the components except the Domino Everyplace Enterprise server (which we already have installed; see 9.2.4, "Domino Everyplace Enterprise server installation" on page 257):
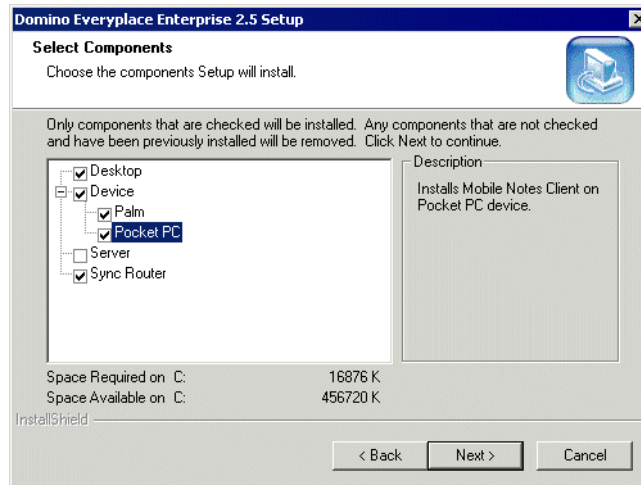
Figure 9-15   Domino Everyplace Enterprise Installation Components

8. Select **Desktop**, **Palm device**, **Pocket PC device** and **Sync Router**. The only component that shouldn't be selected is Server.

9. Click **Next** to save the selections and proceed.
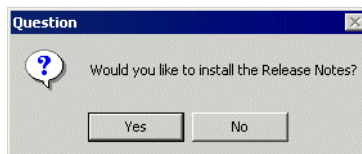
Figure 9-16   Domino Everyplace Enterprise Release Notes?

10. Click **Yes** to install the Release Notes. You should install the Release Notes because it holds the latest information about Domino Everyplace Enterprise.

The Desktop component install requires you to select your Lotus Notes program path.
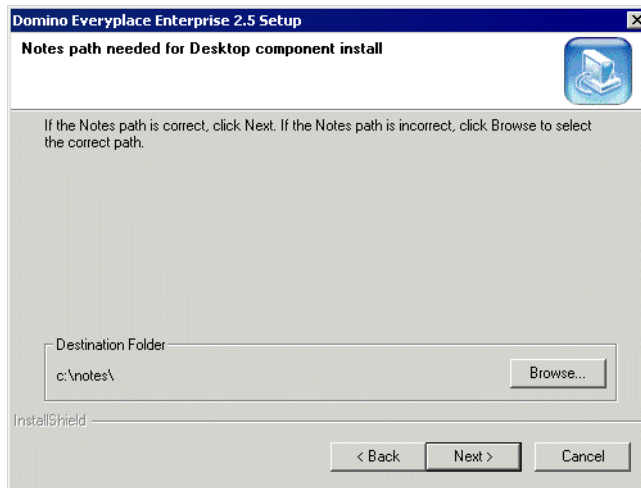
Figure 9-17   Domino Everyplace Enterprise Desktop Component Notes path

11. Click **Browse** to choose a different installation path if the Notes path is incorrect.

12. Click **Next** to save your selections and proceed.

The Desktop component install requires you to select your Lotus Notes data path.
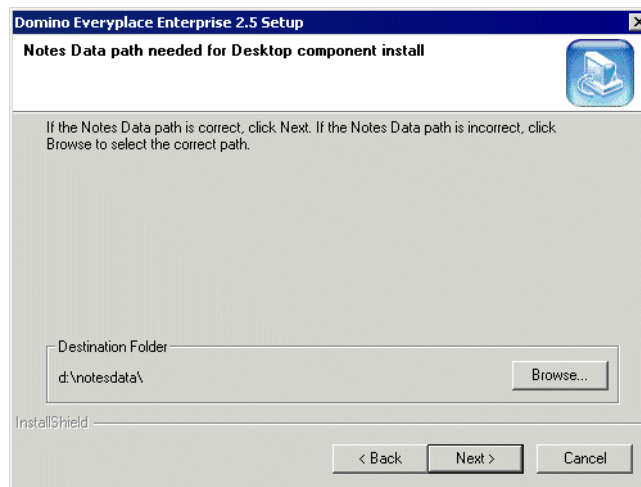
Figure 9-18   Domino Everyplace Enterprise Desktop Component Notes Data path

13. Click **Browse** to choose a different installation path if the Notes data path is incorrect.

14. Click **Next** to save your selections and proceed.

The Sync Router install requires you to select the installation path for the component.
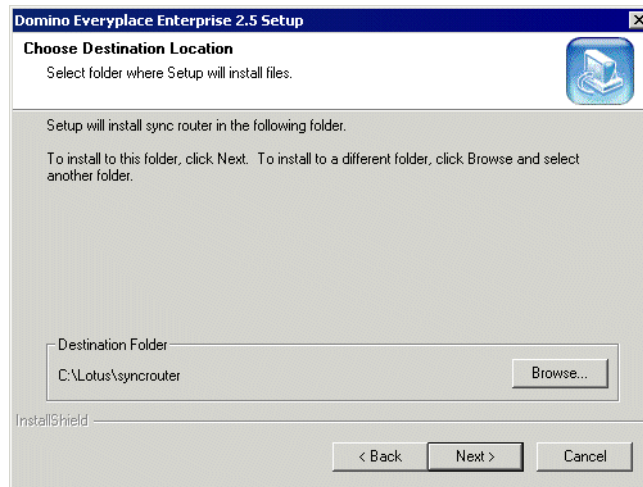
Figure 9-19   Domino Everyplace Enterprise Desktop Sync Router Installation path

15. Click **Browse** if you wish to choose a different installation path.

16. Click **Next** to save your selections and proceed.

The Sync Router install also requires you to select a program folder for the Sync Router shortcut.
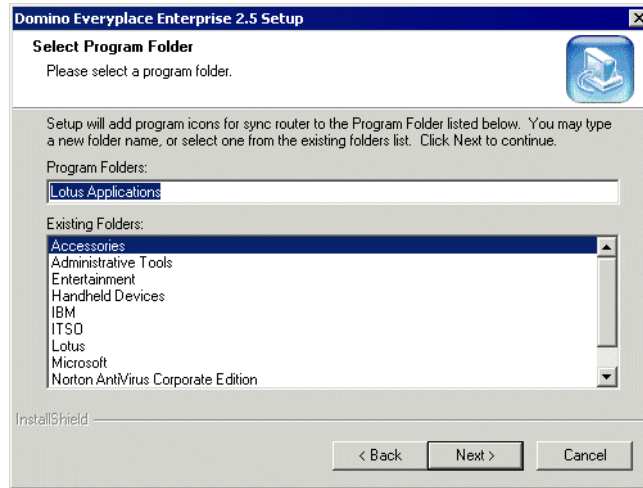
Figure 9-20   Domino Everyplace Enterprise Desktop Sync Router Program Folder

17. You can type in a new folder in the **Program Folders:** edit box, or select an existing folder in the **Existing Folders:** list box, or select the default.

18. Click **Next** to save your selections and proceed.

The installation is now ready and will copy the components to your PC.

> **Important:** Review the settings carefully. If you have chosen to install Mobile Notes for either Palm or Pocket PC devices, the appropriate installation tools have to be present on your PC or else the installation process will fail. Remember to shut down any running Lotus Notes or Domino programs before continuing.
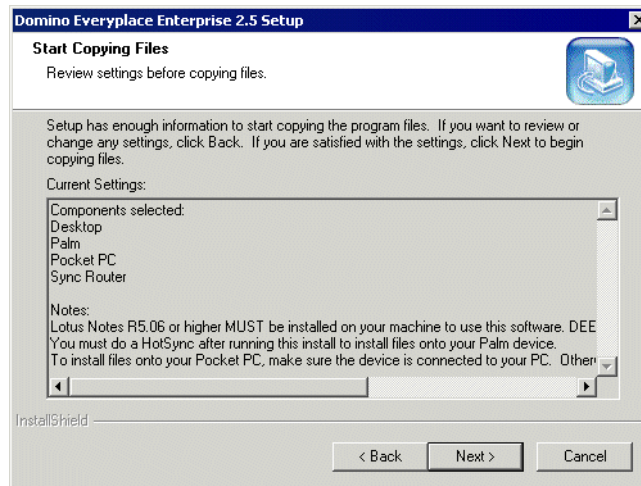
Figure 9-21   Domino Everyplace Enterprise Desktop Installation Settings

19. Click **Next** to proceed and start copying the files with the current settings.

The Pocket PC Component install will try to install directly on your Pocket PC device.
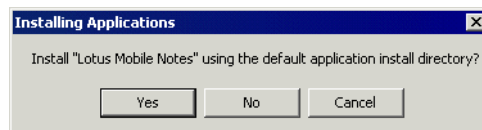
Figure 9-22   Domino Everyplace Enterprise MS ActiveSync Install

20. Click **Yes** to install Mobile Notes on your Pocket PC.

If the Pocket PC device is not connected, Mobile Notes will be downloaded to the device at the next connection.
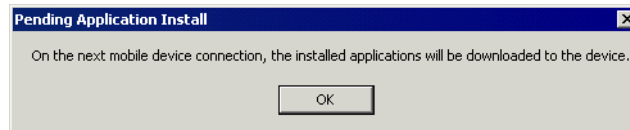
Figure 9-23   Domino Everyplace Enterprise Desktop Pocket PC Component Install

21.Click **OK** to proceed.

The Domino Everyplace Enterprise Desktop components are now being installed.

Figure 9-24   Domino Everyplace Enterprise Installation Complete
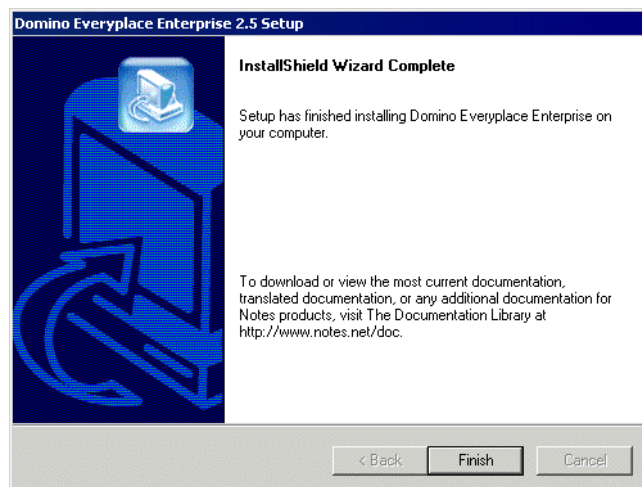
22.The Domino Everyplace Enterprise Desktop installation is now completed. Click **Finish** to close the setup window.

> **Note:** When the Domino Everyplace Enterprise installation has finished, you will be asked to register your Domino Everyplace Enterprise. If you did this during the Domino Everyplace Enterprise server installation, disregard this notice. Otherwise, please take time to register your version.

9.4 Mobile Notes installation for Pocket PC devices

This section describes the installation of Mobile Notes on Pocket PC devices. If your Pocket PC device was connected during the Domino Everyplace Enterprise Desktop installation, Mobile Notes has already been installed.

9.4.1 Mobile Notes installation from PC MS ActiveSync

If your Pocket PC device wasn't connected during the Domino Everyplace Enterprise Desktop installation, Mobile Notes will be downloaded to your device at the next connection.

Place your Pocket PC device in the cradle or connect it through the InfraRed port.
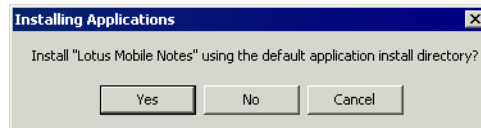
Figure 9-25   MS ActiveSync Automatic Download

1. Click **Yes** to install Mobile Notes on your Pocket PC device.

MS ActiveSync downloads the program files to the Pocket PC device and starts the installation procedure on the Pocket PC device.
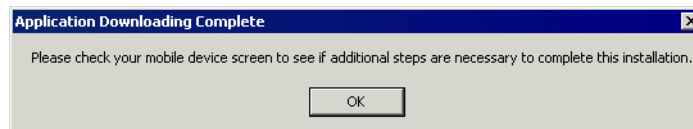
Figure 9-26   MS ActiveSync Downloading Complete

2. Check your Pocket PC device. Click **OK** if no additional steps are necessary to complete the installation on your device.

You should now be able to locate the Mobile Notes client in your program folder on your Pocket PC device.
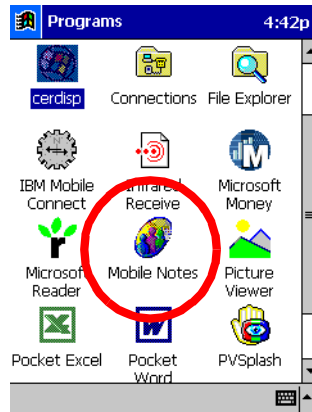
Figure 9-27   Mobile Notes Icon

3. Click **Start->Programs** to locate the Mobile Notes icon.

If the automatic download of Mobile Notes doesn't start when you connect your Pocket PC device, you can do it manually from MS ActiveSync by following these steps:
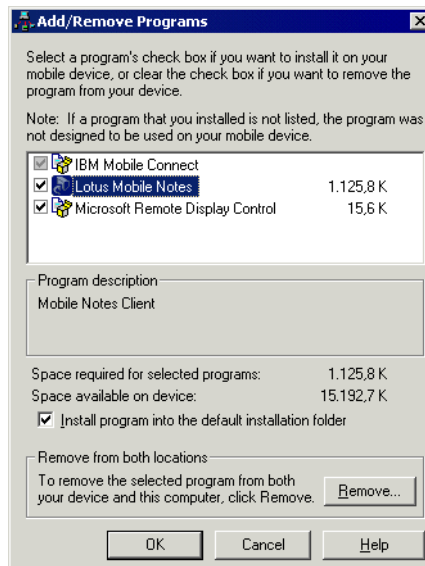
Figure 9-28   MS ActiveSync Add/Remove Programs

1. Select **Tools, Add/Remove Programs**

2. Select **Lotus Mobile Notes** in the list of programs to install and click **OK**.

MS ActiveSync downloads the program files to the Pocket PC device and starts the installation procedure on the Pocket PC device.
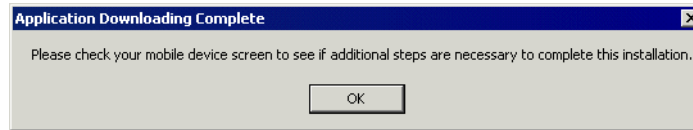
Figure 9-29   MS ActiveSync Downloading Complete

3. Check your Pocket PC device. Click **OK** if no additional steps are nessecary to complete the installation on your device.

9.4.2 Installing Mobile Notes on additional Pocket PC devices

Installation on additional Pocket PC devices can be done from the Domino Everyplace Enterprise CD.

Follow steps 1 through 7 in 9.3.3, "Client components installation" on page 263.
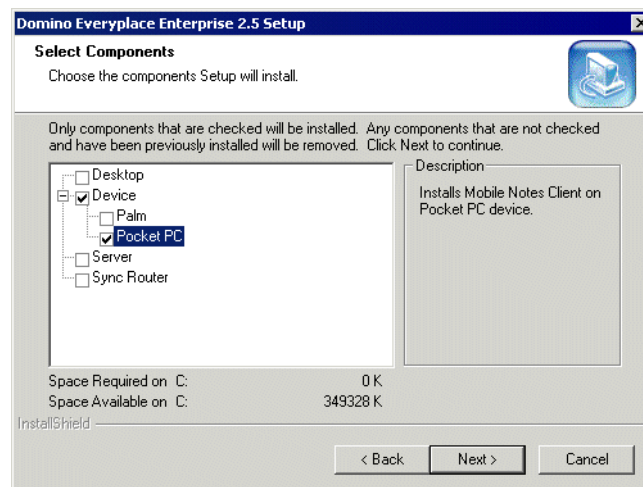
Figure 9-30   Mobile Notes for Pocket PC devices

1. Select **Pocket PC** as the only component to install.

2. Click **Next** to save the selection and proceed.

MS ActiveSync starts the installation process automatically since the Pocket PC device is connected.
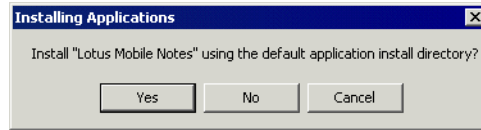
Figure 9-31   MS ActiveSync Automatic Download

3. Click **Yes** to install Mobile Notes on your Pocket PC device.

MS ActiveSync downloads the program files to the Pocket PC device and starts the installation procedure on the Pocket PC device.
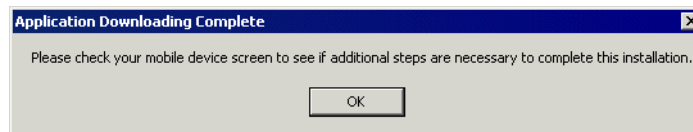
Figure 9-32   MS ActiveSync Downloading Complete

4. Check your Pocket PC device. Click **OK** if no additional steps are nessecary to complete the installation on your device.

9.5 Mobile application development

This section provides you with the tools to develop a Mobile Notes application. The following flowchart summarizes the steps in the Mobile Notes application building process.
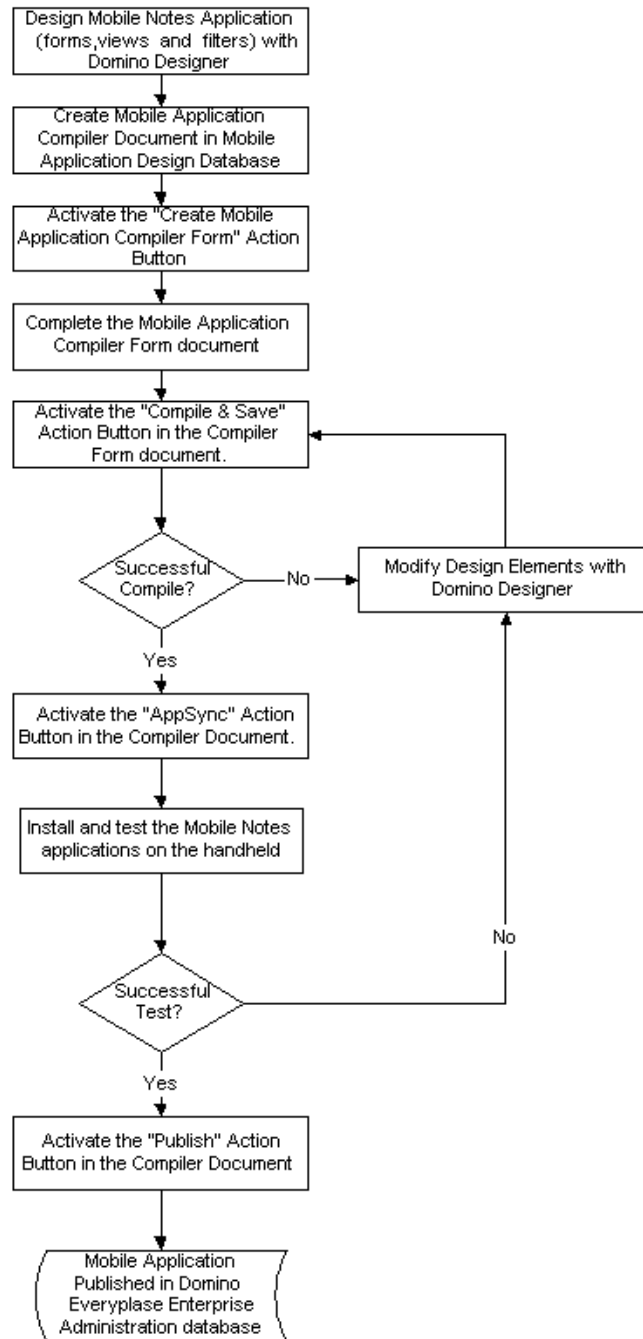
Figure 9-33   Building Mobile Notes applications

9.5.1 Pre-development requirements

Before developing your first Mobile Notes application for testing you should ensure the following:

► The Domino Designer has to be installed to create the Lotus Notes application.

► The Mobile Notes client has to be installed on your emulator or PDA.

► The Domino Everyplace Enterprise Mobile Application Designer and database have to be installed to compile the Mobile Notes application and to create application files for the PDA.

► Assign the role [MobileNotesDev] to the designers and users that should have access to the compiler document in the Lotus Notes databases.

These requirements will allow you to create and compile the Mobile Notes applications and create the application files for the PDA.

To publish the Mobile Notes applications to the Domino Everyplace Enterprise server you should also ensure the following:

► The Domino Everyplace Enterprise server has to be installed and configured on a Domino server.

► You have to be member of the DEESAdmin group in the Domino Directory in order to publish Mobile Notes applications to the Domino Everyplace Enterprise server Administration database.

► You have to add LocalDomainServers with Manager access to your database's ACL if you will be distributing it to non-Domino Everyplace Enterprise servers.

► You have to add the Domino server that the Domino Everyplace Enterprise server runs on to the ACL and grant it the highest level and privileges of any user in the ACL. The Domino Everyplace Enterprise server uses the server ID to access the Mobile Notes applications hosted by the Domino server.

► If you use roles to control access to documents, you have to add these roles to the Domino server that the Domino Everyplace Enterprise server runs on.

► Check the ACL settings for each application to prevent access problems when users begin synchronizing their handhelds with the Domino Everyplace Enterprise server.

► To test the Mobile Notes synchronization on a Palm device, you could use the Sync Router asa local IP router. If not, you have to establish an IP connection to the Domino Everyplace Enterprise server in some other way, such as through a modem dial-up connection or LAN connection.

9.5.2 Mobile application design restrictions

The following restrictions apply when you design applications for a handheld.

General design restrictions

The following restrictions apply to all types of handheld devices:

► Use only supported design elements and objects in your Mobile Notes application since using unsupported design elements or objects causes errors.

► The Mobile Notes client does not support LotusScript, Java or JavaScript.

► The Mobile Notes client does not support input translation and input validation formulas.

► The Mobile Notes client is case sensitive; be sure to specify the exact case for all view, form, field and variable names, and for @functions and @command arguments.

► Because of varying physical screen sizes of different devices, there are no specific guidelines for field and form layouts. Before publishing your Mobile Notes application, you should test the applications. Copy the files created with AppSync to your emulator or PDA and test the design and functionality thoroughly.

► There is no support for horizontal scrolling on forms.

► Use font sizes of 9 points or smaller.

Palm device restrictions

The following apply specifically to Palm devices.

► Lines on forms should not exceed 1.9 inches in width.

► Do not exceed 13 lines on a form.

► Forms cannot be scrolled.

► If you include action buttons on a form, then the form cannot contain more than 10 lines. You should only use action menus.

Pocket PC device restrictions

The following apply specifically to Pocket PC devices.

► Lines on forms should not exceed 2.2 inches in width.

► Exceeding 13 lines on a form is possible.

► Forms can be scrolled, but this is not recommended.

► There is no support for tabbed tables.

► If you include action buttons on a form, then the form cannot contain more than 10 lines. You should only use action menus.

9.5.3 Mobile Application Design Best Practices

This section describes best practices for creating Mobile Notes applications.

Forms

Keep the following in mind when you design your Mobile Notes forms.

► The "one form - one document" relationship common to Lotus Notes does not always apply to applications for the PDA. Due to the limited screen size, the limited number of lines per form, and the inability to scroll forms on Palm devices, you may need to create multiple forms that represent one document. Include the @Command[(ViewSwitchForm)] to navigate from one form to another.

► Limit the number of action buttons. They occupy too much design space.

► To create unlabeled hotspot buttons, add two spaces to the Label field of the Button Properties box to ensure that the button appears as an unlabeled button.

► Avoid using tables because it will slow your application performance.

► Minimize the use of @DBLookup and @DBColumn because as they will slow your application performance.

► Use tabs or hidden fields to space objects on forms.

► Include a device-related prefix on your form names, for example:

```
Mobile_formname (if form for all type of handheld)
Palm_formname (if form only for Palm devices)
PPC_formname (if form only for Pocket PC devices)
```

► Hide Mobile Notes forms from Lotus Notes and Web.

► To hide the forms from the Create menu on Pocket PC devices you should use (*form name*).

► When you have a target database containing forms for both the Mobile Notes client and the Notes client, you should give your Mobile Notes forms names that identify them with the corresponding Notes forms, and give them an alias equal to the name of the Notes form. For example, if your Notes form is named TravelRequest, you can name the Mobile Notes form PPC_TravelRequest and give it the alias TravelRequest.

► When you republish a filter form, the Mobile Application Designer removes the value in the Views field, the only required field on the filter forms. After you

republish a filter, make sure to enter the value in the Views field of the filter document.

► When you compose a document from another document, you effectively are closing the first document.

Views

Keep the following in mind when you design your Mobile Notes views.

► Use five or fewer columns to make views easier to read.

► Keep columns narrow to make views easier to read.

► Always include a Selection formula for your views. Do not use the Easy option to create a view selection. If you do, in order to build your selection, make sure you switch to Formula before saving the view.

► View columns do not support simple functions, so you may have to create a hidden field in a form to display the value of the field as a substitute for the simple functions result.

Fields

Keep the following in mind when you design your Mobile Notes fields.

► Data types are not variants in the Mobile Notes environment, so your Mobile Notes applications cannot convert numeric fields to a text field on the fly.

► Avoid placing combo box or list box fields at the bottom of a form since they may be unusable in the Mobile Notes client.

► You can scroll a text field, but you must remember to allocate enough space for the field.

► Use different text colors for hidden fields to make them easier to identify.

► For all Date/Time fields, select the "Adjust time to local zone" option in the Time Zone field of the Field Properties box. Otherwise, Date/Time fields will default to GMT.

@functions

► Limit the number of @DbLookup functions on a form. Database queries slow performance.

► Do not store the results in a temporary variable when checking a value in @DbLookup. Doing so will always return a true condition.

► Do not use "=" operator to compare a list of values if one of the values is an empty string "". Under these conditions, Mobile Notes produces a logical value of true, regardless of the actual results. You should use @Elements to compare strings.

@commands

► If you specify a form as your application Home Page, use

`@Command([Compose];"";"`*`form name`*`")`

to return the user to the Home Page.

► If you specify a view as your application Home Page, use

`@Command[(FileCloseWindow)]`

to return the user to the last open view. Note that if your application does not contain any views, the user returns to the Mobile Notes workspace.

Keep in mind

Keep the following in mind when designing Mobile Notes applications for a handheld:

► The most important thing to remember is that you are creating applications for devices with a limited environment.

► Spend time on navigation.

► Focus on content flow, not display.

► Choose content carefully - use filters.

► Minimize page length - remember a document can consist of multiple forms.

► Mobile Notes is case sensitive.

► You might not get the layout right the first time you build the application. You might have to compile and test the application via AppSync numerous times before publishing it to the Domino Everyplace EnterpriseS Administration database.

> **Attention:** Refer to Appendix B, "Additional information on Domino Everyplace Enterprise" on page 363 for a list of supported objects, properties, events, @functions and @commands.

9.6 Creating the first application for Mobile Notes

This section describes the steps to create a Mobile Notes application for your PDA:

► Designing the forms and views for the Mobile Notes application

► Creating a Mobile Application document in the Mobile Application Designer database

► Completing the Mobile Application Compiler document in the Mobile Notes target database

► Compiling the Mobile Notes application

► Creating the Mobile Notes application files for testing

Tip: While developing the Mobile Notes application, it is best to work on a local copy or local replica of the database, rather than making changes to working databases.

9.6.1 Forms and views for the Mobile Notes application

In the following example you will change an existing Lotus Notes database for Travel Requests and create a Mobile Notes application, which will enable you to make new or review old travel requests from your PDA.

Note: We assume you are familiar with the Domino Designer and the different elements of the Domino Designer. Refer to *Application Development with Domino Designer* or to the full online Domino R5 Designer Help (help5_designer.nsf).

Building the Home Page form

To act as a navigator in your Mobile Notes application, use a form as your Home Page. The Home Page will enable you to create new requests and view the requests.

1. Open the Lotus Notes database in Domino Designer.

2. Click **New Form** to create the new form.

3. Select **View, Ruler** to display the horizontal ruler.

Keeping the limited size of the PDA in mind, you have to set the font size on the form to 9 or smaller.
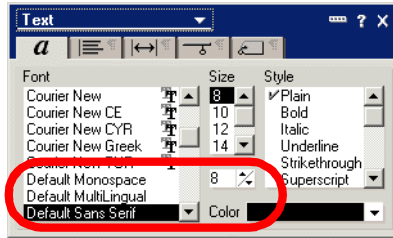
Figure 9-34   Text properties

4. Right-click on the form. Make sure you are not clicking any of the objects.

5. Select **Text properties** from the context menu.

6. Select **Default Sans Serif** in the Font list and set the size to **8**.

7. Change the properties for the form in order to hide from Lotus Notes clients.
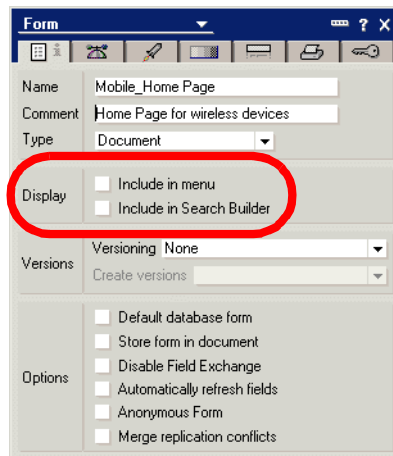
Figure 9-35   Form properties

8. Right-click on the form. Make sure you are not clicking any of the objects.

9. Select **Form properties** from the context menu.

10. Unmark **Include in menu** and **Include in Search Builder**.

The Home Page will enable you to create a new booking request and view the requests.
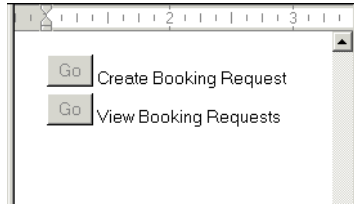
Figure 9-36   Home Page form in Domino Designer

11. Create the form as shown in Figure 9-36.

To activate the Create Booking Request, create a hotspot button on the form, as follows.
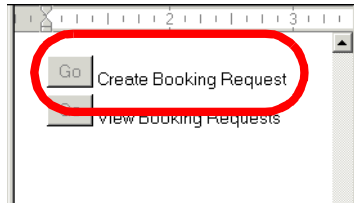
Figure 9-37   Create Booking Request button

12. Place the cursor where you want the button and select **Create, Hotspot, Button**.

> **Tip:** To create an unlabeled button, add two spaces to the Label field in the button's properties box.

In this example we label the button Go and then enter the text for the function after the button. You could also label the button with the function text or leave it unlabeled.
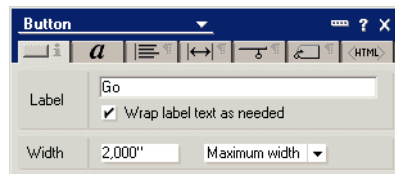
Figure 9-38   Hotspot Button properties

13. Enter the **Label** for the button.

14. Type this text on the form directly after the hotspot button:

```
Create Booking Request
```

To complete the button creation you have to enter the formula for the button.
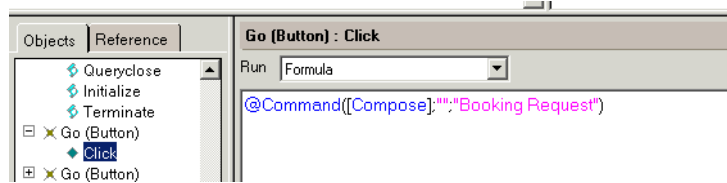
Figure 9-39   Formula window

15. With the Button Properties open, click in the formula window.

16. Enter the formula

```
@Command([Compose];"";"Booking Request")
```

where Booking Request is the alias for the form you wish to create a new document with.

To activate the View Booking Request, create one more Hotspot button on the form.
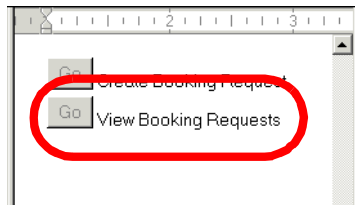
Figure 9-40   View Booking Request button

17. Place the cursor where you want the button and select **Create, Hotspot, Button**.

18. Enter the **Label** for the button.

19. Type this text on the form directly after the hotspot button:

```
View Booking Request
```

20. With the Button Properties open, click in the formula window.

21. Enter the formula

```
@Command([OpenView];"";"Booking Requests")
```

where Booking Requests is the view containing the booking requests.

You could either enter a heading for the Home Page directly on the form, or you could enter the heading in the form's Window Title object. For the purpose of this example we have extended the heading to include the date.

Figure 9-41   Window Title object for the form

22. Right-click on the form. Make sure you are not clicking any of the objects.

23. Enter the following formula in the formula window for the Window Title object. The formula will display a static text followed by the actual date for the day as the heading for the Home Page:

```
monthnumber:=@Text(@Month(@Today));
day:=@Text(@Day(@Today));
year:=@Text(@Day(@Today));
Month:=@If(monthnumber="1";"Jan.";monthnumber="2";"Feb.";
monthnumber="3";"Mar.";monthnumber="4";"Apr.";
monthnumber="5";"May.";monthnumber="6";"Jun.";
monthnumber="7";"Jul.";monthnumber="8";"Aug.";
monthnumber="9";"Sep."monthnumber="10";"Oct.";
monthnumber="11";"Nov.";"Dec.");
"Booking Request ("+month+" "+day+", "+year+")"
```

When you save the form, you should include a name relating the form to the type of PDA it is designed for.
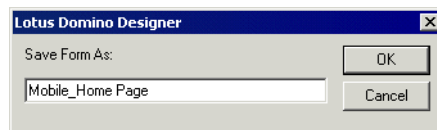
Figure 9-42   Save Form As

24. Press the Esc key, or select **File, Close** to close and end the design of the form.

25. Click **Yes** to save the form.

26. Enter the name of the form in the Save Form As edit box. In the example you should enter:

```
Mobile_Home Page
```

Since the Home Page we designed can be used on both Palm and Pocket PC devices, we did not enter a device-related prefix. We did enter Mobile_ as a prefix to separate it from the forms for the Lotus Notes client.

When you populate the form to the PDA, it will look like this:
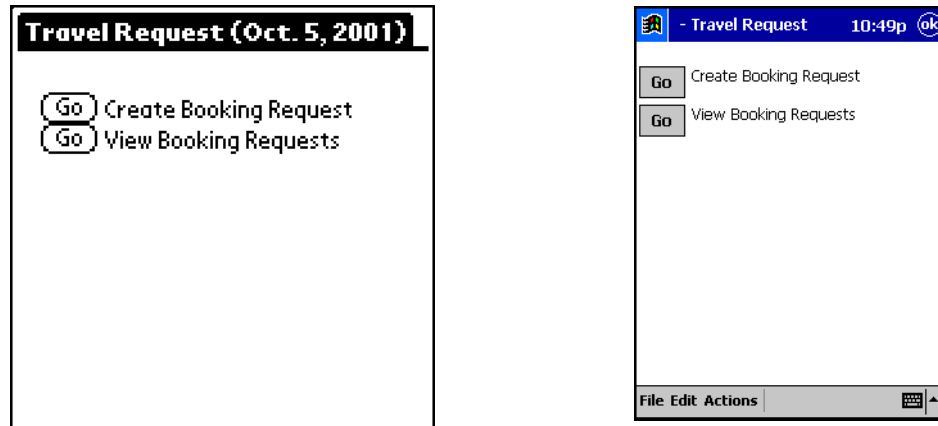
Figure 9-43   The Home Page on Palm and Pocket PC devices

Building the Booking Request forms

Keeping the limited environment in mind, we will now build tree forms to show the different ways you can migrate a Lotus Notes form to the limited size of the PDA.

One document - multiple forms

On Palm devices you cannot scroll forms, so in order to create a Booking Request document that consists of more fields than a single Mobile Notes form can hold, you can use the @Command[(ViewSwitchForm)] and build multiple forms.

Use the following steps to create the Booking Request forms. Steps 1 to 10 are the same as those for building the Home Page.

1. Open the Lotus Notes database in Domino Designer.

2. Click **New Form** to create the new form.

3. Select **View, Ruler** to display the horizontal ruler.

4. Right-click on the form. Make sure you are not clicking any of the objects.

5. Select **Text properties** from the context menu.

6. Select **Default Sans Serif** in the Font list and set the size to **8**.

7. Change the properties for the form in order to hide from Lotus Notes clients.

8. Right-click on the form. Make sure you are not clicking any of the objects.

9. Select **Form properties** from the context menu.

10. Unmark **Include in menu** and **Include in Search Builder**.

The first form will hold the fields with the general information for the Booking Request.

Figure 9-44   1. Booking Request form in Domino Designer

11. Create the form as shown in Figure 9-44.

12. Enter the label **Name** at the top of the page.

13. Insert a tab to position the cursor for the TravNames field.

14. Select **Create, Field** to insert the field at the cursor position.

If you accept the default values for the field, the width of the field on the Palm device will only display a limited numbers of characters.

Figure 9-45   Field properties

15. Enter **TravNames** as the name of the field.

16. Change the style to **Native OS Style** to set the width and height of the field.

> **Tip:** You should always set both the width and the height of the fields, because the default height (0,25") will limit the number of lines on the Mobile Notes form.

17. Enter **1.5"** as the width of the field.

18. Enter **0.2"** as the height of the field.

The positioning as you see it on Domino Designer may not be the same on the PDA, due to the way the text, spaces, and so forth are rendered.

Figure 9-46   Using tabs or spaces to position objects

On Figure 9-46 the TravNames field is positioned using tabs and the Reason field is positioned using a single space. The widths of the two fields are also different, but on the Palm device the vertical position of the fields and the width of the fields are alike, as shown in Figure 9-47 on page 290.

Figure 9-47   Tabs or spaces on Mobile Notes form

To ensure that the Booking Request you create on the PDA can be read with the corresponding Lotus Notes form, create a hidden Form field as follows:

Figure 9-48   Field properties Hide-When tab

19. Select **Text Properties** for the field Form.

20. Select the **Hide-When** tab.

21. Select **Notes R4.6 or later**.

In this example, since we will create multiple forms in order to hold all the fields needed to create the Booking Request, we have to include an action that enables the switching of forms.
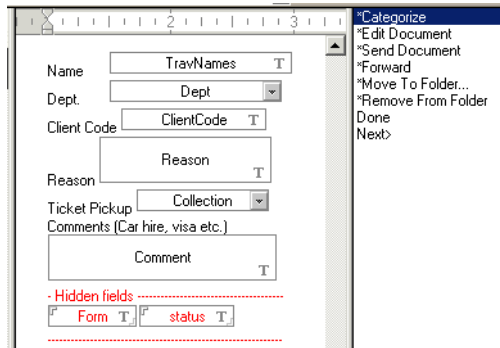
Figure 9-49   Form Actions

When you create Form Actions, keep in mind that if you decide to include the actions in the button bar, it will limit the number of available lines on the Mobile Notes form.

Attention: If you do not include the actions in the button bar, they can be selected from the Actions menu on the Pocket PC device. On the Palm device you have to tap the menu icon to display the Actions menu, or tap the forms header.
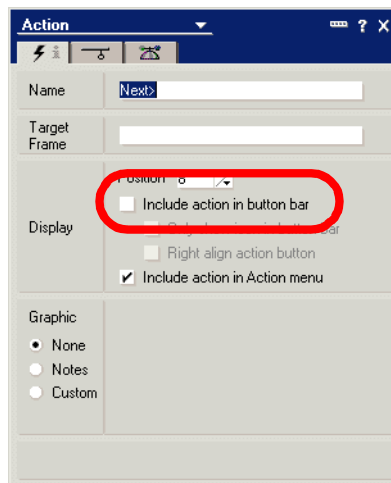
Figure 9-50   Form Actions properties

22.Select **Create, Action** to create the new form action.

23. Enter **Next** as the form action Name.

24. Remove the **Include action in menu bar** selection.

25. Click the formula window and enter the formula

    ```
    @Command([ViewSwitchForm];"Palm_Booking Request_P2")
    ```

    where *Palm_Booking Request_P2* is the name of the new Mobile Notes form this action will open.

26. Right-click on the form. Make sure you are not clicking any of the objects.

27. Enter the following in the formula windows of the Window Title object:

    "Travel Booking - General Info"

When you save the form, you should give it a name that relates to the type of PDA it is designed for.

28. Press the Esc key or select **File, Close** to close and end the design of the form.

29. Click **Yes** to save the form.

30. Enter the name of the form in the Save Form As edit box. In this example you should enter

    ```
    Palm_Booking Request_P1 | Booking
    ```

The second form for the Booking Request is to hold the actual information regarding flight times, destination, and so forth.

Figure 9-51   2. Booking Request form in Domino Designer

31. Create the form as shown in Figure 9-51.

To align the fields with the same left margin, position them using tabs.

> **Tip:** When you create Date/Time fields, you will only be able to enter data using the native calendar or time interface on the PDA. If you want to enter the date or time in writing, the field type must be Text.
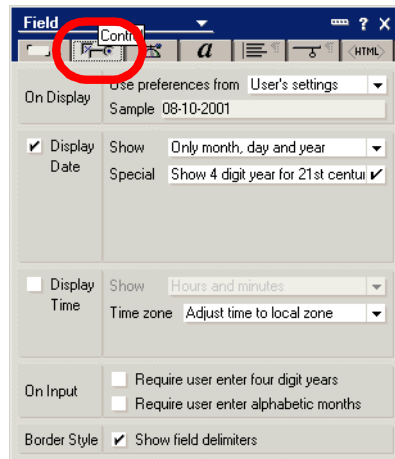
Figure 9-52   Field Control properties

32. Right-click the date field, Date1, to display the properties window.

33. Select the **Control** tab to set the control properties.

34. Select **Display Data** and show **Only month, day and year.** Display Time should not be selected.

35. For the time field, D1, the control properties have been set to **Display Time** and show **Hours and minutes**. Display Date should not be selected.

36. Use the same settings for the Date2 and D2 fields.

37. Create a form action to switch back to the previous form and enter

    `@Command([ViewSwitchForm];"Palm_Booking Request_P1");`

    in the formula window.

38. You should also create a form action to save the Booking Request and enter

    `@Command([Compose];"";"Home Page");`

    in the formula window.

39. Close and save the form as

    `Palm_Booking Request_P2`

When you populate the forms to Palm, they will look like Figure 9-53.

Figure 9-53   The Booking Request forms on Palm device

Form with vertical scroll

For the Pocket PC devices, you can create a form longer than 13 lines since you are able use a vertical scroll bar.

Figure 9-54   "Scrolling" Booking Request form in Domino Designer

The only thing you have to do to create a Mobile Notes form that can be scrolled is to use more than 13 lines on the form.

1. Create the form as shown in Figure 9-54 by using step 1 - 11 described in "One document - multiple forms" on page 287.

2. Position the fields on the form using tabs.

3. This form should be saved as **(PPC_Booking Request) | Booking**.

> **Note:** When you create a form with more than 13 lines, the vertical scroll bar will limit the width of the form. If by accident you create a form that is too long to fit on one page, the vertical scroll bar might cover the last positions of the fields.

The field width for the ClientCode field is 1.4" (which would be fine if there was no vertical scroll bar). The field width for the TravNames field has been set to 1.35" which makes the whole field visible on the form, as shown in Figure 9-55.
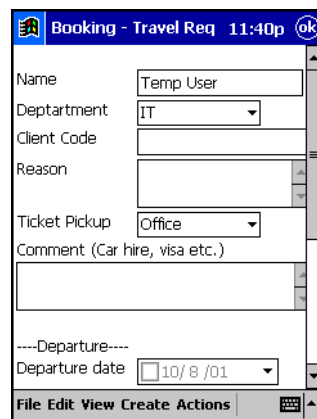
Figure 9-55   The Booking Request form on Pocket PC device

Building the Booking Requests view

As with the forms, you have to keep in mind the limited environment of the PDA when you design the view.

For this example, the Booking Requests view will only show these fields:

► Departure date
► Return date
► Destination
► Status

Figure 9-56   Booking Requests view in Domino Designer

We have included tree view actions in this view to enable creating and deleting documents and to close the view.

1. Create a new action and name it **New**. This action will be used to create a new form using the form with the alias Booking.

2. Enter

   ```
   @Command([Compose];"";"Booking");
   ```

   in the actions formula window.

> **Tip:** In Mobile Notes, you cannot undelete a deleted document, since it is not pasted to the clipboard. Therefore, you should include a prompt to warn about deleting documents from the application.

3. Create a new action and name it **Delete**. This action will be used to delete the selected documents in the view.

4. Enter

   ```
   @If(@Prompt([YESNO];"Delete";"Are you sure you want to delete the selected
   documents?"); @Command([EditCut]);"");
   ```

   in the actions formula window.

This will display the message box shown in Figure 9-57 on page 297 to the users when they have selected some documents and tap the **Delete** action.
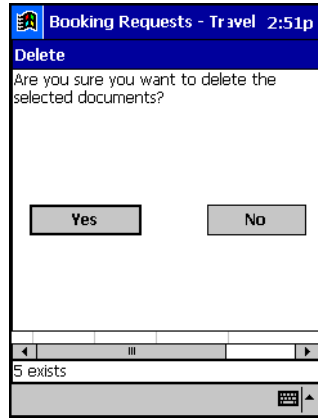
Figure 9-57   Delete... view action

5. Create a new action and name it **Done**. This action will be used to close the view and reopen the Home Page.

6. Enter

    `@Command([Compose];"";"Home Page");`

    in the actions formula window.

7. Save the view as **Booking Requests**.

9.6.2 Mobile Application Design database

The Mobile Application document that you create in the Mobile Application Design database identifies the Notes database to be used to create the mobile applications and the server on which the Notes database resides. After you complete the Mobile Application document, you can create the Mobile Application Compiler document. The Mobile Application Designer copies the Mobile Application Compiler form and the compiler document to the target database. It also copies the Mobile Compiler Docs views to the target database, so you can access the compiler documents.

As the Mobile Application Designer also copies device-specific documents to the target database, you will only be able to compile Mobile Notes applications for the handheld you decided to support during installation of Domino Everyplace Enterprise.

You can create more than one Mobile Notes application from one Notes application. To do so, create a Mobile Application document for each application that you want to create. The Mobile Application Designer then creates a corresponding compiler document for each application. You must specify a unique design name for each mobile application.

Compiler document security

As described in 9.5.1, "Pre-development requirements" on page 277, the Mobile Application Designer restricts access to the target database by adding author and reader fields to the compiler documents and views. The author and the [MobileNotesDev] role are then assigned to these fields. If you want additional users (other than the author) to be able to manage the compiler documents, you have to assign these users to the [MobileNotesDev] role.

Mobile Application Document

The Mobile Application Document specifies the basic information about the Mobile Notes application that you want to compile. Before you create the Mobile Application Compiler form, you have to complete the following fields:

Title

The title of the Mobile Notes application as you want it to read on the wireless device. The title has to be unique for the applications you publish to the Domino Everyplace Enterprise Administration database.

Design name

The design name of the new application you are creating. The design name has to be unique if you create more than one Mobile Application Compiler form for a Lotus Notes database.

Server

The server on which the Mobile Notes application database resides. If the database resides on the local machine, this field should not be filled.

Database

The database which holds the design of the Mobile Notes application. The Mobile Application Compiler forms and views will be copied to this database.

We now describe the steps to create the Mobile Application Compiler forms for the Mobile Notes forms and views we created in 9.6.1, "Forms and views for the Mobile Notes application" on page 282.

1. Close the Lotus Notes database holding the views and forms for the Mobile Notes application.

1. Locate the Mobile Application Design database (MSDDesigner.nsf) and open it.

2. Click the action button **Create Mobile Application**.

You can now enter the basic information for the Mobile Notes application.

Figure 9-58   Mobile Application Document form

3. Enter **Palm Travel Request** as the Title of the Mobile Notes application.

4. Enter **Palm_Travel Request** as the Design Name. **Palm_** shows that this is a design for Palm devices.

5. Leave the Server field blank for now if your Mobile Notes application resides on your local machine.

6. Enter the database, holding the views and forms for the Mobile Notes application, in the Database field. Click the Hotspot button **Choose a target database** to select the database from the data directory.

7. Click the action button **Create Mobile Application Compiler Form**.

The Mobile Application Compiler documents and forms are now copied to the target database. After the documents and views have been copied, the Mobile Application Designer can take you directly to the Compiler document. In this example, we want to create another Compiler document for the Pocket PC version of the Mobile Notes application.
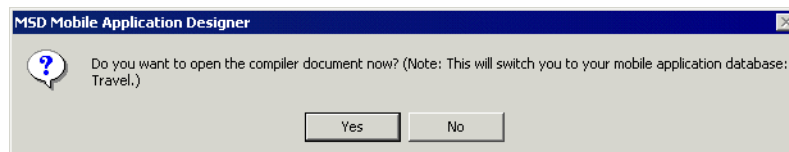
Figure 9-59   Open Compiler document from Mobile Application Design database

8. Click **OK** to close the window that should state the new application was created successfully.

9. Click **No** to open the compiler document in the target database.

10. Click the action button **Close** and click **Yes** to save the document.

11. Click the action button **Create Mobile Application** on the Mobile Applications view to create the next Mobile Application Document.

12. Enter **Travel Request** as the Title of the Mobile Notes application.

13. Enter **PPC_Travel Request** as the Design Name. **PPC_** shows that this is a design for Pocket PC devices.

14. Leave the Server field blank for now if your Mobile Notes application resides on your local machine.

15. Select the target database using the Hotspot button **Choose a target database** or enter the name directly in the Database field.

16. Click the action button **Create Mobile Application Compiler Form**.

17. Click **OK** to close the window that should state the new application was created successfully.

18. Click **Yes** to open the compiler document in the target database.

9.6.3 Mobile Application Compiler document

The Mobile Application Compiler document identifies the different design elements in the Mobile Notes application which are to be compiled and published to the Domino Everyplace Enterprise Administration database.

The following section describes the tabs and fields on the Mobile Application Document. The fields marked with an ***** are required, either when compiling or when publishing the Mobile Notes application.

Basics tab

The Basics tab contains the target database and server information you specified in the Mobile Application document.

Title*

The title of the Mobile Notes application as you will see it on your Mobile Notes workspace.

Design Name*

The design name for the Mobile Notes application.

Device Type*

The device the Mobile Notes application will be compiled for. The dialog list only displays the devices you have installed support for.

Design tab

On the Design tab, you specify which elements from the Lotus Notes database to include in the Mobile Notes Application, and the filters to use in the Mobile Notes application.

Forms*

The forms you have created for your Mobile Notes application.

Synchronization Filter Form*

The filter forms created by the Mobile Application Designer. These forms can be used to specify additional filters on data to be synchronized; you should leave the filter forms as created.

Default Form*

Name of the form to be used if the required form is not available.

Views*

The views you have created for your Mobile Notes application.

Home Page Type*

The type of design element the Home Page refers to. The Home Page can either be form, view, document or last view. If you specify a document as Home Page Type you must compile both the design and the document to which you link.

Home Page*

You have to specify the name of the design element here. If you specified *last view* as Home Page Type you should specify a view to be used the first time you open the Mobile Notes application. After the first open, the last view opened will be displayed.

Language*

The dialog list displays the languages you can select. By choosing a language encoding specific to the language used in the forms, you ensure that the language for each document is set appropriately. You have to select a language to perform a compilation.

Application Icon

Select an application icon for your Mobile Notes application.

Mobile Fields tab

By default, all fields from the specified forms on the Design tab are included. You can add new fields that are not included in the forms, and you can also remove fields form the forms. Click **Get mobile field list** to get a list of all the fields included on the selected forms before you click **Add Mobile Field Name** or **Remove** to add or remove field names. You only have to click **Finalize** if you have added or removed fields.

Publish tab

Specify information to be used when publishing the Mobile Notes application to the Domino Everyplace Enterprise Server Administration database on the Publish tab.

Application Name*

The title of the Mobile Notes application as you will see it on your Mobile Notes workspace. This name has to be unique in the Domino Everyplace Enterprise Server Administration database.

Publish To Server*

The Domino server holding the Domino Everyplace Enterprise Server Administration database you want to publish to.

View/Folders for Filter*

View/folder which shows the documents you want to publish.

Database Location*

Select **Domino Mail Database** if the Mobile Notes application you are publishing is built on the Mobile Notes e-mail reference template; otherwise, you should select **Domino Server**.

Database Server

Select the Domino server holding the Lotus Notes database with your Mobile Notes design elements.

Database filepath

Enter the path and filename for the Lotus Notes database form the Domino Data directory.

Compile Results tab

The Compile Results tab shows a status for the compilation, including a list of warnings and errors. If more than 50 errors occur during compilation, the Mobile Application Designer will not finish the compilation and you will be prompted to correct the problem. Even if the compilation generates numerous errors or warnings, you can still publish the Mobile Notes application; however, a single error can cause unexpected behavior on your wireless device.

Publish Results tab

The Publish Results tab shows any warnings or errors which might have occurred when publishing to the Domino Everyplace Enterprise Server Administration database.

We now describe the steps to complete the Compiler document in order to compile the Mobile Notes Application. We will use the Mobile Application Compiler Forms created in "Mobile Application Document" on page 298.

1. Open the document **Travel Request** in the Mobile Compiler Docs view. This document will be used to compile the Travel Request application for the Pocket PC device.

2. Select **Pocket PC** from the Device Type dialog list.

Since we will build the Mobile Notes application with different Travel Request forms for the Palm and Pocket PC devices, we cannot use the same compiler document.

Figure 9-60   Design tab on Mobile Application Compiler document

3. Click the **Design** tab to fill in the information about the design elements.

4. Either enter or select **(Mobile_Home Page);(PPC_Booking Request)** in the Forms field.

5. Leave the field Synchronization Filter Form as filled out by the Mobile Application Designer.

6. Either enter or select **(PPC_Booking Request)** in the Default Form field.

7. Either enter or select **Booking Request** in the Views field.

8. Select **form** from the Home Page Type dialog list.

9. Enter **(Mobile_Home Page)** as the Home Page.

10. Select **English** from the Language dialog list.

11. Select an icon from the **Application Icon** dialog list.

All the information required to compile the Mobile Notes application has now been entered. When you compile the application, you have to choose whether you will compile only the design or both the design and documents. For now we will compile both design and documents since we want to test the Mobile Notes application before we publish it.

12. Click the **Compile & Save** Action button and select **Design and documents**.

The Mobile Notes application will now be compiled and when finished, it displays a status window.

13. Click **OK** to close the status windows and click **Compile Results** tab to review any warnings or errors.
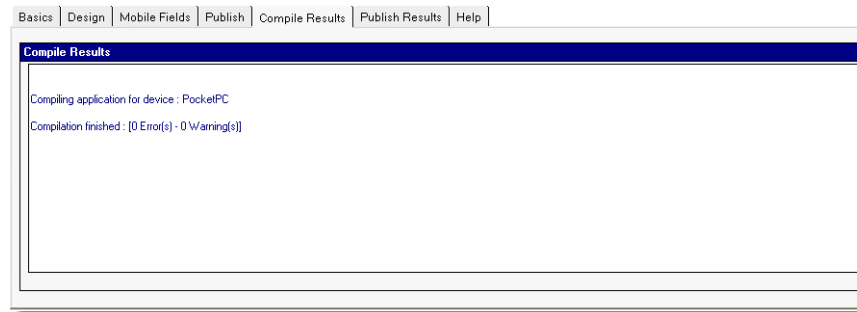
Figure 9-61   Compile Results tab on Mobile Application Compiler document

Follow these steps to compile the Mobile Notes application for the Palm device:

1. Open the document **Palm Travel Request** in the Mobile Compiler Docs view.

2. Select **Palm** from the Device Type dialog list.

3. Click the **Design** tab to fill in fields as shown below:

   Form: **(Mobile_Home Page);Palm_Booking Request_P1;Palm_Booking Request_P1**

   Default Form: **(PPC_Booking Request)**

   Views: **Booking Request**

   Home Page Type: **form**

Home Page: **(Mobile_Home Page)**

Language: **English**

4. Click the **Compile & Save** Action button and select **Design and documents**.

5. Click **OK** to close the status windows and click the **Compile Results** tab to review any warnings or errors.

Create device-specific file type with AppSync

The compiler attaches the mobile digest to a form in the Lotus Notes target database.

AppSync converts the mobile digest from an XML file to:

► A *Design Name*.PRS file for Pocket PC devices

► A *Design Name*.PRC file for Palm devices

You can install the file onto the PDA or an emulator, where you can then load the file into Mobile Notes for testing purposes.

You can locate the files in:

► ..Notes\AppSync Output\Palm

► ..Notes\AppSync Output\Pocket PC

To convert the XML files for the Pocket PC and Palm device, do as follows:

1. Click the **AppSync** Action button in the Travel Request Compiler document. The converted XML file for the Pocket PC device can be located as:

   `..Notes\AppSync Output\Pocket PC\PPC_Travel Request.PRS`

2. Open the **Palm_Travel Request** document to convert the XML file to a .PRC file.

3. Click the **AppSync** Action button. The converted files for the Palm device can be located as:

   `..Notes\AppSync Output\Palm\Palm_Travel Request.PRC`

> **Note:** Running AppSync is an optional step in your development of a Mobile Notes application. Before publishing a Mobile Notes application, it is recommended that you run AppSync to test the application.

9.6.4 Load the Mobile Notes application on a Pocket PC device

If Mobile Notes is not installed on your wireless device at this point, you should do so now. Refer to 9.4.2, "Installing Mobile Notes on additional Pocket PC devices" on page 274 for details.

To load the Mobile Notes .PRS file onto a Pocket PC device, you have to transfer it through the MS ActiveSync program as follows:

1. Copy the file

   ```
   ..Notes\AppSync Output\Pocket PC\PPC_Travel Request.PRS
   ```

   to:

   ```
   Pocket_PC My Documents
   ```

Use *Pocket PC My Documents* if you selected the defaults during the first Get Connected... session between your Pocket PC device and MS ActiveSync.

2. Perform a synchronization with MS ActiveSync to transfer the file to your Pocket PC device.

Note: Before you can test, you have to install the application into Mobile Notes using the DataWriter program on the Pocket PC device.

1. Close Mobile Notes before installing any new applications.

2. Press **Start->Programs->File Explorer**.

3. Press **My Documents** and select **My Device** from the drop down menu.

4. Press **Program Files->Mobile Notes>DataWriter** to load the DataWriter program.

5. From the DataWriter program, select **Create database** and press **Execute**.

You will now see a complete list of all .PRS files you can install into Mobile Notes. At this point the list should only show the file you just transferred.
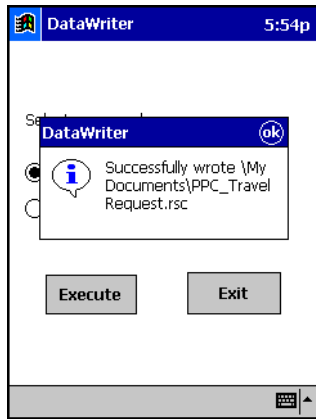
Figure 9-62   Installing AppSync files with DataWriter

6. Tap **PPC_Travel Request** to install the file into Mobile Notes.

7. Tap **OK** to close the DataWriter status window.

8. Tap **Exit** to close the DataWriter program.

The Travel Request application has now been successfully installed in Mobile Notes and you can test the application before you publish it.

9.6.5 Load the Mobile Notes application on a Palm device

To load the Mobile Notes application files onto your Palm devices, you have to use the normal HotSync Install tool. If you have not installed Mobile Notes on your Palm device, you should do so now.

1. From your Windows Explorer, double-click

   ```
   ..\Notes\AppSync Output\Palm\Palm_Travel Request.prc
   ```

   This will launch the HotSync Install Tool program. If you have not installed Mobile Notes, you can do so now.

2. Click **Add** to browse for .PRC files from the HotSync Install Tool.

3. Navigate to the ..\Notes\PRC subdirectory and select the following files to load all the files required to run Mobile Notes on your Palm device:

   ```
   DemoDb.prc
   DB2eComp.prc
   DB2eRunTime.prc
   imsaconfig.prc
   imsanotes.prc
   isynce.prc
   mNotes.prc
   ```

```
PBSPkcs11.prc
wbxmllb2.prc
wbxmllib.prc
```

4. Click **Done** to close the HotSync Install Tool and the files will be loaded to your Palm device the next time you sync.

After you have performed the next HotSync, you will see the Mobile Notes application on your Palm device's workspace as a normal Palm application; you have to load it into Mobile Notes.

If you use the PalmOS Emulator, you can install the Mobile Notes application and Mobile Notes files mentioned above through the **Install Application/Database** function.

The following steps describe how to load the Mobile Notes application into Mobile Notes, so you can run the application.

1. Press the **Palm_Travel Request** icon on the Palm workspace to load the application into Mobile Notes.

2. Press the m-Notes icon to load Mobile Notes.

3. Press **Palm Travel Request** to launch the application and test it before you publish.

> **Attention:** You only use MS ActiveSync and HotSync Install to test the Mobile Notes applications generated with AppSync. After you have published the Mobile Notes applications to the Domino Everyplace EnterpriseS Administration database, they will be loaded to your wireless device and installed into Mobile Notes automatically when you perform a synchronization.

9.6.6 Publish to Domino Everyplace Enterprise Administration database

When you publish the Mobile Notes application to the Domino Everyplace Enterprise Administration database, the Mobile Application Designer performs the following tasks:

▶ It creates an application profile document in the Domino Everyplace Enterprise Administration database.

▶ It copies the filter forms to the Domino Everyplace Enterprise Administration database.

▶ It creates a default filter document for the application in the Domino Everyplace Enterprise Administration database.

After you publish a Mobile Notes application to a Domino Everyplace Enterprise Administration database, authorized users can synchronize their PDA with the Domino server that holds the Mobile Notes application. The Domino Everyplace Enterprise server uses the Domino Everyplace Enterprise Administration database as a directory to find the Domino server that holds the application.

An administrator has to configure the Domino Everyplace Enterprise Administration database to enable users to access the Mobile Notes application. For more information on the administration and enabling user access, see 9.7, "Domino Everyplace Enterprise Administration" on page 311.

> **Important:** When you publish to the Domino Everyplace Enterprise Administration database, you have to compile *Design only.*

In 9.6.3, "Mobile Application Compiler document" on page 300, you filled out all the required information which enabled you to compile the Mobile Notes applications. Before you publish to the Domino Everyplace Enterprise Administration database, you have to complete the Publish tab in the application profile document.

The following steps describe how to complete the Publish tab and publish the Travel Request for the Pocket PC devices.

1. Open the *Travel Request* Mobile Application document from the Mobile Compiler Docs view.
2. Click the **Compile & Save** action button and select **Design Only** from the drop-down menu.
3. Click the **Publish** tab to complete the Mobile Application document.

The Publish tab holds the information which will be used to create the Mobile Application Profile document in the Domino Everyplace Enterprise Administration database.

Figure 9-63   Publish tab on Mobile Application Compiler Document

4. Enter `Travel Request` as the Application Name.

5. Enter the server holding the Domino Everyplace Enterprise Administration database, which in this example is `Balder/RedMobile`. You could also click the **Choose Server** hotspot button to select the server from the Choose Database dialog.

6. Select **Domino Server** from the Database Location dialog list.

7. Click the **Choose Server & Filepath** hotspot button to select the Domino server and Lotus Notes database that hold the Mobile Notes design elements. You can also enter the Database Server and Database filepath manually. In this example, the database holding the design elements is MobileApps\TravReq.nsf located on the Domino server Mjollner/Redmobile.

The required information to publish the Mobile Notes application now has been entered, and you can publish the Travel Request application for the Pocket PC to the Domino Everyplace Enterprise Administration database.

8. Click the **Publish** Action button to publish the Mobile Notes application.

9. Click **OK** to close the status windows and click the **Publish Results** tab to review the Publish messages.
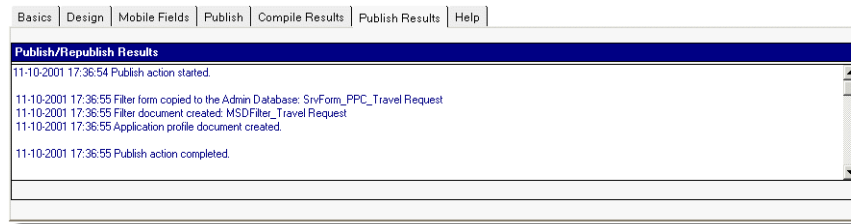
Figure 9-64   Publish Results tab on Mobile Application Compiler document

To publish the Travel Request application for the Palm devices, follow these steps:

1. Open the *Palm Travel Request* Mobile Application document from the Mobile Compiler Docs view.

2. Click the **Compile & Save** action button and select **Design Only** from the drop-down menu.

3. Click the **Publish** tab and fill in the fields as shown:

   Application Name: `Travel Request for Palm`

   Publish to Server: `Balder/RedMobile` in this example.

   Views/Folders for filter: `Booking Requests`

   Database Location: `Domino Server`

   Database Server: `Mjollner/RedMobile` in this example.

Database filepath: `MobileApps\TravReq.nsf`

4. Click the **Publish** Action button to publish the Mobile Notes application.

5. Click **OK** to close the status windows and click the **Publish Results** tab to review the Publish messages.

After you have published a Mobile Notes application, you should provide the following information to the administrator of the Domino Everyplace Enterprise Administration database:

► A view or folder name from the Lotus Notes application. The administrator will use this name in the Views field in the Domino Everyplace Enterprise Administration database.

9.7 Domino Everyplace Enterprise Administration

You use the Domino Everyplace Enterprise Administration database, DEESAdmin.nsf, to perform the major tasks of administering Domino Everyplace Enterprise.

9.7.1 Pre-administration requirements

Before developers of the Mobile Notes applications are allowed to publish to the Domino Everyplace Enterprise Administration database, the following tasks must be performed:

► Domino Everyplace Enterprise has to be installed and configured on a Domino server.

► The developers must be members of the DEESAdmin group in the Domino Directory in order to publish Mobile Notes applications to the Domino Everyplace Enterprise Administration database.

► You have to add LocalDomainServers with Manager access to your database's ACL if you will be distributing it to non-Domino Everyplace Enterprise servers.

► You have to add the Domino server that the Domino Everyplace Enterprise server runs on to the ACL and grant it the highest level and privileges of any user in the ACL. The Domino Everyplace Enterprise server uses the server ID to access the Mobile Notes applications hosted by the Domino server.

► If you use roles to control access to documents, you have to add these roles to the Domino server that the Domino Everyplace Enterprise server runs on.

► Before you begin the administration tasks, you must know which mobile applications you are to deploy to which users.

► Check the ACL settings for each application to prevent access problems when users begin synchronizing their PDA with the Domino Everyplace Enterprise.

Domino Everyplace Enterprise installation on multiple Domino servers

If Domino Everyplace Enterprise is installed on multiple Domino servers in your enterprise, you need to replicate the Domino Everyplace Enterprise Administration database installed on the first Domino server to all the other servers running Domino Everyplace Enterprise. Do not copy or create a new database because having copies of the database, whose replica IDs do not match, would keep mobile users from synchronizing with servers.

9.7.2 Configuring mobile applications

The Domino Everyplace Enterprise application design process streamlines the administrative task of preparing mobile applications for deployment to users. The last step in the design process creates the following documents and publishes them to the Domino Everyplace Enterprise Administration database:

► A Mobile Application Profile for each Mobile Notes application

► A filter document for each Mobile Notes application

Before users can synchronize the Mobile Notes application, you have to do the following (see Figure 9-65):

► Create a Device Profile

► Assign users or groups to the Mobile Notes application

► Enable the Mobile Notes application
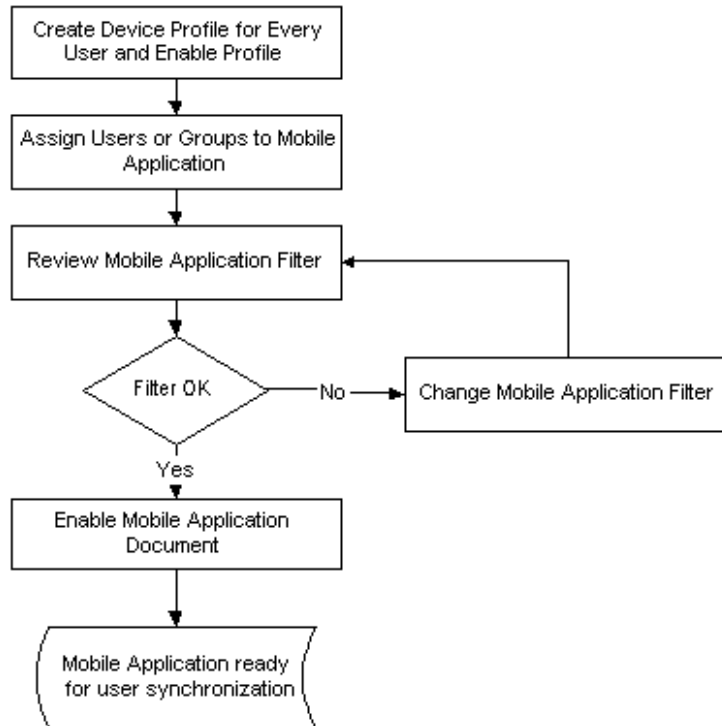
Figure 9-65   Application administration in Domino Everyplace Enterprise

Reviewing a Device Profile

To assign Mobile Notes applications to a new wireless user, you need to Create a Device Profile for each wireless device that the user owns.

The following describes the tabs and fields on a Device Profile. The fields marked with an ***** are required.

Basics tab

The Basics tab contains the general information about the device and the owner.

Enabled*

Determines whether the device is enabled or not.

Device Type*

The wireless device this profile covers.

Owner*

The owner of this wireless device.

Description
You can fill in a short description of the device.

Identifier
The Unique ID from the wireless device. Created upon the first synchronization.

Name
Not in use.

Language
Language supported by the design as stated in the Mobile Application Compiler document.

Account Information File
Not in use.

Applications and Filters tab
On the Application and Filters tab, you can assign the different Mobile Notes applications and filters to the owner of the wireless device.

> **Tip:** If you want to save time by assigning the same set of mobile applications to multiple new users or groups, you can create a Device Profile Template.

Device Profile template
The following describes the tabs and fields on a Device Profile template. The fields marked with an ***** are required.

Basics tab
The Basics tab contains the general information about the device and the users this profile should be used for.

Device Type*
The wireless device this profile covers.

Enabled*
Determines whether the device is enabled or not.

Domino Directory*
The Domino Directory holding the Address book.

Language
Language supported by the design as stated in the Mobile Application Compiler document.

Assign to Users*

A list of users this template should be assigned to.

Applications and Filters tab

On the Application and Filters tab, you can assign the different Mobile Notes applications and filters to the users of this profile.

Log tab

The Log tab shows the status of the assignment of applications and filters.

Reviewing a Mobile Application Profile

A newly published Mobile Application Profile appears in the New Applications sub-view of the Applications view. As administrator, you need to enable the Mobile Notes application and assign users before the wireless users can synchronize the application.

The following describes the tabs and fields on a Mobile Application Profile. The fields marked with an * are required, but have been filled in during the publishing of the Mobile Notes application.

Basics tab

The Basics tab contains the general information about the Mobile Notes application.

Application Name*

The name of the Mobile Notes application.

Application Title*

The title of the Mobile Notes application as it will read in Mobile Notes on the wireless device.

Description

You can fill in a short description of the Mobile Notes application.

Enabled*

Determines whether the Mobile Notes application is enabled for users. You can also enable the new application by using the **Enable Application** action on the New Applications view.

Device Type*

The device this Mobile Notes application is compiled for.

Synchronization tab

The Synchronization tab contains the information to be used during synchronization. It contains the filter to use and the information about the Lotus Notes database to synchronize with.

Default filter*

The filter created by the Mobile Application Designer.

Database Location*

Tells whether the Mobile Notes application is a mail application or any other application.

Database Server*

The Domino server hosting the Lotus Notes application.

Database Path and Name*

The full path from the Domino data directory and the database filename.

Design Name*

The name of the design from the Mobile Application Compiler document.

User Selectable*

If you want this Mobile Notes application to be synchronized with the wireless device every time the user synchronizes with Domino Everyplace Enterprise, you should select **No**. Keep the default **Yes** if you want the users to select which Mobile Notes applications to synchronize before connecting to Domino Everyplace Enterprise.

Assignment tab

The Assignment tab contains the information about the selected filters and the users this Mobile Notes application will be available to.

Assigned Filter

The filter assigned to this Mobile Notes application.

Domino Directory*

The Domino Directory holding the Address book.

Assigned User(s)

The user(s) this Mobile Notes application has been assigned to.

Log tab
The Log tab shows the status of the assignment of applications and filters.

> **Important:** You cannot assign users to a Mobile Notes application before you have created a Device Profile.

Reviewing a filter document
The filter document associated with an Mobile Notes application filters the information sent to a wireless device by identifying the view or folder in the Lotus Notes application that contains the documents you want your wireless users to receive. As an administrator, you have to ensure that the view field in the filter document contains a proper value.

The following describes the fields for a Mobile Application Filter. The fields marked with an ***** are required.

Views
The view or folder in the Lotus Notes application that show the documents to be synchronized.

Synchronize unread data only
If you only want the users to synchronize their unread documents to the wireless device you should select **Yes,** otherwise keep the default **No**.

Sync documents since
You can select **No Date**, **Last Sync** or **Sync Date**. If you only want the users to synchronize documents changed since they performed the last synchronization, select **Last Sync**. If you only want the users to synchronize documents changed on the same day as the synchronization, select **Sync Date**.

Maximum number of documents per sync
The maximum numbers of documents you will allow the user to synchronize on every sync.

Remove documents before Sync
Select **All** if you will delete the documents in the Mobile Notes database before every synchronization otherwise keep the default **None**.

Truncation Type
You can either select to truncate **None**, **Summary** or **Truncate text**.

Truncate Size (KB)
Select the size the truncation type should have before it will be truncated.

Sync Mode
You can either select **Cache**, **No Cache** or **Cache & Database**

Filter Name
The name of the filter as published from the Mobile Application Compiler document.

Filter Design Name
The design name from the Mobile Application Compiler document.

Can user edit filter
Select **Yes** if you will allow the user to change the filter in Mobile Notes before synchronization; otherwise ;keep the default **No**.

Formula
The selection formula this filter will use when selecting documents from the view or folder entered in the Views field.

9.7.3 Configure the Travel Request application for Pocket PC devices

We now describe the steps to configure the Travel Request application and enable users to synchronize the documents in the Lotus Notes application with their Mobile Notes.

1. Open the subview **By Filter** in the Device Profile view.

2. Click **Create a Device Profile** in the Action bar.

You can now create the Device Profile for a specific user (which in this example will be `Red Mobile`**)**.

Figure 9-66   Basic tab in Device Profile document

3. Click **Yes** to enable the device.

4. Select **PocketPC** as the device type.

5. Enter the **Owner** or select the owner from the Names dialog.

6. Enter a short **Description** for this device.

7. Select the **Language** that is supported for this device.

8. Click the **Applications & Filter** tab to select an application to assign to the device.

You have to assign at least one Mobile Notes application and filter to the wireless device.

Figure 9-67   Application & Filter tab in Device Profile document

9. Click the **Assign Application** hotspot button to select the Mobile Notes application and filter.

10. Select **Travel Request** from the Application list and **MSDFilter_Travel Request** from the Sync Filter list.

11. Click **Save and Close**.

The next step in the process is to assign the new Mobile Notes applications to the users and enable the Mobile Application Profile document.

12. Open the subview **New Applications** in the Applications view.

13. Open the **Travel Request** document.

You can now assign this application to the wireless users.

Figure 9-68   Assignment tab in Mobile Application Profile document

14. Click the **Assignment** tab to select the users.

15. Click **Choose Domino Directory** to select the Domino Directory from where you will select the wireless users.

16. Select the users you want to assign to this application from the Names list, or enter them manually in the **Assigned Users*** field.

The last step you have to do before your wireless users can synchronize the Mobile Notes application is to enable the Mobile Application Profile.

Figure 9-69   Basics tab in Mobile Application Profile document

17. Click the **Basics** tab.

18. Select **Yes** in the Enabled* radio-button field.

19. Click **Close** in the Action bar to close and save the changes.

The Travel Request application has now been enabled and the assigned users can perform the first synchronization with Domino Everyplace Enterprise server.

You have to supply the wireless users with the following information:

► The TCP/IP address of the Domino Everyplace EnterpriseS that has access to the mobile applications. The users cannot use the host name of the server.

► The port number, if other than the default port of 80. The port number is the one specified for the port on the Internet Protocols - Domino Web Engine tab of the Domino Server document.

The wireless users have to enter this information in the Mobile Notes server document on their devices.

9.7.4 Configure the Travel Request application for Palm devices

We now describe the steps to configure the Travel Request application and enable the users to synchronize the documents in the Lotus Notes application with their Mobile Notes.

1. Open the subview **By Filter** in the Device Profile view.

2. Click **Create a Device Profile** in the Action bar.

You can now create the Device Profile for a specific user (which in this example will be `Blue Mobile`).

Figure 9-70   Basic tab in Device Profile document

3. Click **Yes** to enable the device.

4. Select **Palm** as the device type.

5. Enter the **Owner** or select the owner from the Names dialog.

6. You should enter a short **Description** for this device.

7. Select the **Language** that is supported for this device.

8. Click the **Applications & Filter** tab to select an application to assign to the device.

You have to assign at least one Mobile Notes application and filter to the wireless device.

Figure 9-71   Application & Filter tab in Device Profile document

9. Click the **Assign Application** hotspot button to select the Mobile Notes application and filter.

10. Select **Travel Request** from the Application list and **MSDFilter_Travel Request** from the Sync Filter list.

11. Click **Save and Close**.

The next step in the process is to assign the new Mobile Notes applications to the users and enable the Mobile Application Profile document.

12. Open the subview **New Applications** in the Applications view.

13. Open the **Palm Travel Request** document.

You can now assign this application to the wireless users.

Figure 9-72   Assignment tab in Mobile Application Profile document

14. Click the **Assignment** tab to select the users.

15. Click **Choose Domino Directory** to select the Domino Directory from where you will select the wireless users.

16. Select the users you want to assign to this application from the Names list, or enter them manually in the **Assigned Users*** field.

The last step you have to do before your wireless users can synchronize the Mobile Notes application is to enable the Mobile Application Profile.

Figure 9-73   Basic tab in Mobile Application Profile document

17. Click the **Basics** tab.

18. Select **Yes** in the Enabled* radio-button field.

19. Click **Close** in the Action bar to close and save the changes.

The Palm Travel Request application has now been enabled and the assigned users can perform the first synchronization with Domino Everyplace Enterprise.

You have to supply the wireless users with the following information:

► The TCP/IP address of the Domino Everyplace Enterprise that has access to the mobile applications. The users cannot use the host name of the server.

> ► The port number, if other than the default port of 80. The port number is the one specified for the port on the Internet Protocols - Domino Web Engine tab of the Domino Server document.

The wireless users have to enter this information in the Mobile Notes server document on their devices.

9.7.5 Configure Mobile Notes on Pocket PC devices

Before you can install an application on your wireless device, you must first configure Mobile Notes to connect with the Domino Everyplace Enterprise that has access to the Mobile Notes application (see Figure 9-85 on page 333). You have to configure:

► Your user name or short name and Domino Internet password as they appear in your Person document in the Domino Directory

► The TCP/IP address of the Domino Everyplace Enterprise that has access to the Mobile Notes applications

> **Note:** You have to use the TCP/IP address of the Domino Everyplace Enterprise server; you cannot use the host name of the server.

► The TCP/IP Port number

The following describes the steps to configure your Pocket PC device to connect with Domino Everyplace Enterprise.
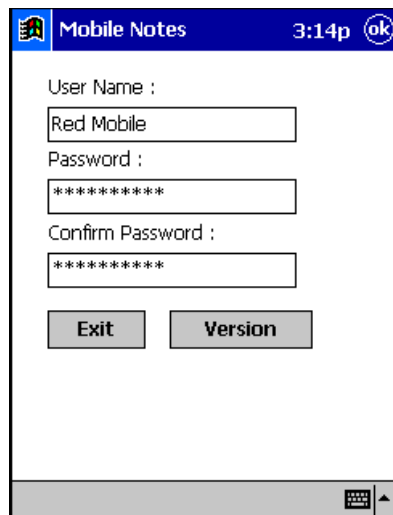
Figure 9-74   Mobile Notes user name and password on Pocket PC device

1. Enter **UserName**. The name you enter here has to be either your user name or the short name for your Person document in the Domino Directory. This will be the name you will get in fields using @UserName.

2. Enter **Password**. The password has to be entered as the Internet password in your Person document in the Domino Directory.

3. Enter **Confirm Password**. The password only has to be confirmed the first time you use Mobile Notes.

4. Tap **OK** to proceed.

The user name and password is not for access-checking in Mobile Notes; it will only be used when synchronizing with Domino Everyplace Enterprise.
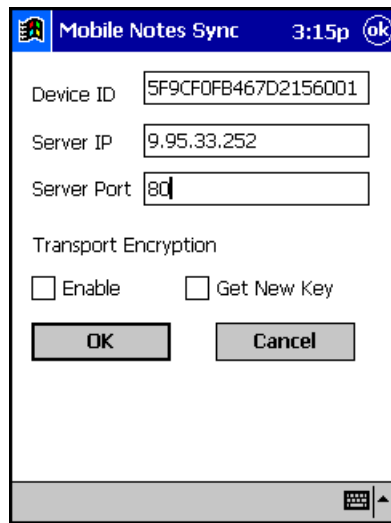
Figure 9-75   Server document in Mobile Notes on Pocket PC device

5. Tap **File**, **Sync** to switch to the Mobile Notes Sync settings.

6. Tap **File**, **Comm Preferences** to open the server document.

7. The Device ID is the unique number for this device. During the first synchronization, the Device ID is added to the user's Device Profile document in the Domino Everyplace Enterprise Administration database.

8. Enter the **Server IP** as the TCP/IP your administrator supplied.

9. Enter the **Server Port**, if different from the default port 80.

10. Tap **Enable** and **Get New Key** to request a server encryption key. The key encrypts all synchronized messages between the wireless device and the server and protects your password.

11.Tap **OK** to close the window and save the server document.

9.7.6 Synchronizing Mobile Notes on Pocket PC devices

After you have configured your server document in Mobile Notes, you can load your Mobile Notes applications into your Mobile Notes. Before you can start working with the documents in Mobile Notes, you have to go through a 3-step process (see Figure 9-85 on page 333):

1. At the first synchronization you will receive a list of the Mobile Notes applications that have been assigned to you.

2. After receiving the list, you have to select the desired applications and perform another synchronization to receive the application design.

3. At the third synchronization the documents will be loaded.

The following describes the steps to synchronize and load the documents into Mobile Notes on your Pocket PC device.

1. Tap **File**, **Sync** to switch to the Mobile Notes Sync settings.

2. Tap **Connect**, **Execute** to start the synchronization with Domino Everyplace Enterprise.

Mobile Notes Sync connects to the Domino Everyplace Enterprise and looks for your Device Profile document. If you have a Device Profile document, your device's unique ID will be inserted in the document and you will be the only one able to connect using this Device Profile document. You will now receive the list of applications assigned to you.
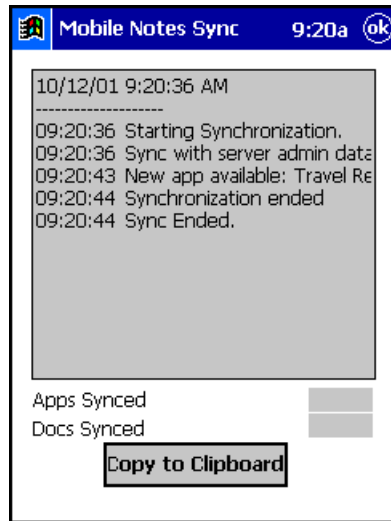
Figure 9-76   Mobile Notes Sync receiving New Application list

3. Tap **OK** to close the window.

You have to select the Mobile Notes application to install in your Mobile Notes.
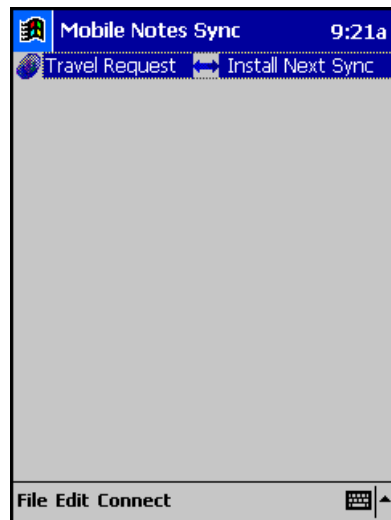
Figure 9-77   Mobile Notes Sync available application to install

4. Tap the application to mark it or tap **Edit, Select/Deselect All**.

5. Tap **Edit, Toggle Sync Mode** to install the application into your Mobile Notes at the next synchronization. To install the application, the line should read **Install Next Sync**.

You can now perform another synchronization to install the selected applications into your Mobile Notes.
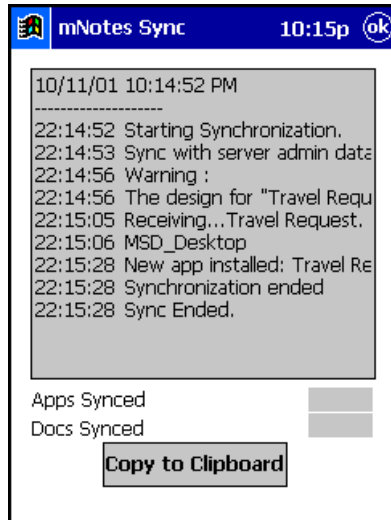
Figure 9-78   Mobile Notes Sync installing application into Mobile Notes

6. Tap **Connect**, **Execute** to start the synchronization with Domino Everyplace Enterprise.

7. Tap **OK** to close the window and perform the last synchronization that will load the documents.

You can now perform a new synchronization and load the documents. If you want to change the filter before loading the documents, you can do that by tapping the application icon and holding the pen down. From the context menu that appears, select **Filter** and you will be able to change the filter for the synchronization.

mNotes Sync   10:17p (ok)

10/11/01 10:16:33 PM

22:16:33 Starting Synchronization.
22:16:34 Sync with server admin data
22:16:35 Sending ...Travel Request. .
22:16:41 Waiting Server Reply...
22:16:48 Receiving...Travel Request.
22:16:48 MSD_Desktop
22:17:01 Synchronization ended
22:17:02 Sync Ended.

Apps Synced   1
Docs Synced   7
Copy to Clipboard
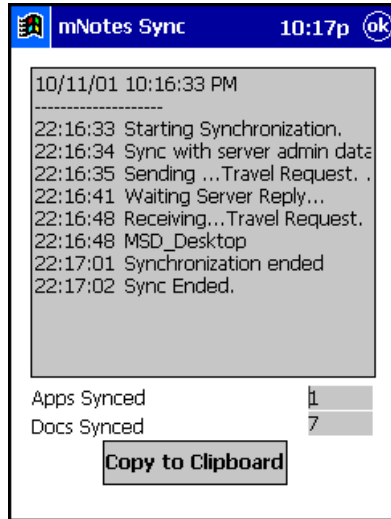
Figure 9-79   Mobile Notes Sync synchronizing documents

8. Tap **Connect**, **Execute** to start the synchronization with Domino Everyplace Enterprise.

9. On the status window you can see how many applications you have synchronized and the total number of documents synchronized. Tap **OK** to close the window.

10.Tap **File, Close** to return to the Mobile Notes workspace.

9.7.7 Configure Mobile Notes on Palm devices

Before you can install applications on your wireless device, you must first configure Mobile Notes to connect with the Domino Everyplace Enterprise that has access to the Mobile Notes applications (see Figure 9-85 on page 333). You have to configure:

► Your user name or short name and Domino Internet password as they appear in your Person document in the Domino Directory.

► The TCP/IP address of the Domino Everyplace Enterprise that has access to the Mobile Notes applications.

Note: You have to use the TCP/IP address of the Domino Everyplace Enterprise server, you cannot use the host name of the server.

► The TCP/IP Port number.

The following describes the steps to configure your Pocket PC device to connect with Domino Everyplace Enterprise server.

Figure 9-80   Server document in Mobile Notes on Palm device

1. The Device ID is the unique number for this device. During the first synchronization, the Device ID is added to the user's Device Profile document in the Domino Everyplace Enterprise Administration database.

2. Enter **UserName**. The name you enter has to be either your user name or the short name for your Person document in the Domino Directory. This will be the name you will get in fields using @UserName.

3. Tap **-not assigned-** to enter **Password**. The password has to be entered as the Internet password in your Person document in the Domino Directory. If you do not enter a password, you will be prompted for one before you can synchronize.

4. Enter the **Server IP** as the TCP/IP your administrator supplied.

5. Enter **Server Port**, if different from the default port 80.

6. Tap **Enable** and **Get New Key** to request a server encryption key. The key encrypts all synchronized messages between the wireless device and the server and protects your password.

7. Tap **OK** to close the window and save the server document.

The user name and password is not for access-checking in Mobile Notes; it will only be used when synchronizing with Domino Everyplace EnterpriseS.

9.7.8 Synchronizing Mobile Notes on Palm devices

After you have configured your server document in Mobile Notes, you can load your Mobile Notes applications into your Mobile Notes. Before you can start working with the documents in Mobile Notes, you have to go through a 3-step process (see Figure 9-85 on page 333):

1. At the first synchronization, you will receive a list of the Mobile Notes applications that have been assigned to you.

2. After receiving the list, you have to select the desired applications and perform another synchronization to receive the application design.

3. At the third synchronization, the documents will be loaded.

The following describes the steps to synchronize and load the documents into Mobile Notes on your Palm device.

1. Tap **Sync** to start the synchronization with Domino Everyplace Enterprise.

Mobile Notes Sync connects to the Domino Everyplace Enterprise and looks for your Device Profile document. If you have a Device Profile document, your device's unique ID will be inserted in the document and you will be the only one able to connect using this Device Profile document. You will now receive the list of applications assigned to you.

Figure 9-81   Mobile Notes Sync receiving New Application list

2. Tap **OK** to close the window and return to the Mobile Notes workspace.

You have to select the Mobile Notes application to install in your Mobile Notes.

Figure 9-82 Mobile Notes Sync available application to install

3. Tap the menu icon or tap the **Lotus** icon at the top of the screen and select **Applications** from the drop-down list.

4. Tap the check box to select **Palm Travel Request**.

5. Tap **OK** to close the window and save your application selections.

You can now perform another synchronization to install the selected applications into your Mobile Notes.

Figure 9-83 Mobile Notes Sync installing application into Mobile Notes

6. Tap **Sync** on the Mobile Notes workspace to start the synchronization with Domino Everyplace EnterpriseS.

7. Tap **OK** after the synchronization to close the windows and return to the Mobile Notes workspace.

You can change the filter used when loading the documents:

8. Tap the menu icon or tap the **Lotus** icon at the top of the screen and select **Synchronization** from the drop-down list.

9. Tap the filter icon right to the application for which you want to change the filter settings.

10. You can now change the settings described in "Reviewing a filter document" on page 317.

11. Tab **Save** when done.

You can now perform a new synchronization and load the documents.
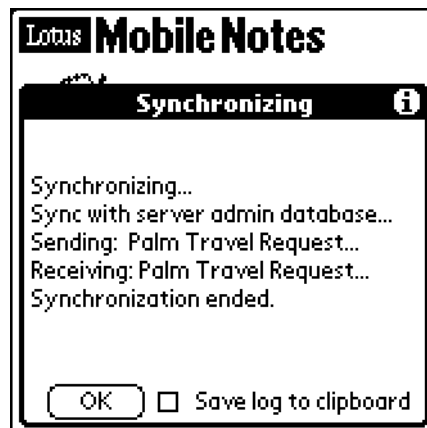
Figure 9-84   Mobile Notes Sync synchronizing documents

12. Tap **Sync** on the Mobile Notes workspace to start the synchronization with Domino Everyplace Enterprise server.

13. Tap **OK** after the synchronization to close the window and to return to the Mobile Notes workspace.

```
    ┌──────────────────────────────┐
    │   Complete Mobile Server     │
    │ document with the IP-adress and│
    │ port number for the DEE server│
    └──────────────────────────────┘
                 │
                 ▼
    ┌──────────────────────────────┐
    │ 1. Synchronization with DEE: │
    │  Receive list of avaliable mobile│
    │         applications         │
    └──────────────────────────────┘
                 │
                 ▼
    ┌──────────────────────────────┐
    │ Select Mobile applications to load│
    │       into Mobile Notes      │
    └──────────────────────────────┘
                 │
                 ▼
    ┌──────────────────────────────┐
    │ 2. Synchronization with DEE: │
    │ Receive design of selected mobile│
    │         applications         │
    └──────────────────────────────┘
                 │
                 ▼
    ┌──────────────────────────────┐
    │        Review Filter         │◄──────────────────┐
    └──────────────────────────────┘                   │
                 │                                      │
                 ▼                                      │
           ◇ Filter OK ◇ ──No──►  ┌──────────────────┐ │
                 │                 │  Change Filter   │─┘
                Yes                └──────────────────┘
                 ▼
    ┌──────────────────────────────┐
    │ 3. Synchronization with DEE: │
    │      Receive documents       │
    └──────────────────────────────┘
                 │
                 ▼
    ╭──────────────────────────────╮
    │   Mobile applications and    │
    │    documents loaded into     │
    │  Mobile Notes and ready      │
    │          for use             │
    ╰──────────────────────────────╯
```

Figure 9-85   Overview of the PDA synchronization process

9.8 Mobile Notes e-mail Reference Application

The new Mobile Notes e-mail reference application can be downloaded from:

```
http://notes.net
```

The Mobile Notes e-mail reference application is a mobile application that works with your existing Notes mail database to enable you to send and receive mail on your handheld device. The application consists of two databases:

► mMail.ntf
► mMailnox.nsf

mMail.ntf contains the application digest and design elements that you have to add to your Notes mail template. mMailbox.nsf serves as a temporary repository for messages on the handheld devices similar to the mail.box file on your Lotus Notes client.

The Mobile Notes e-mail application offers the following basic Notes mail functionality for your handheld device:

► Sending and receiving e-mail memos

► Saving drafts of memos

► Replying to e-mail memos

► Creating contact information

► Synchronizing contact and group information with your Personal Address Book

The mMail database consists of the following design elements, similar to the ones found in your Notes mail database:

Forms:

   – Memo
   – Contact
   – Group

Views:

   – Inbox
   – Drafts
   – Sent
   – All Docs
   – Contacts
   – Groups

In addition, the mMail database includes an agent that synchronizes contacts and groups in the Mobile Notes email application with your Personal Address Book (much like the one used in iNotes).

9.8.1 A procedural overview of the e-mail Reference Application

With the mMail database, you create a mail memo, populating the address fields with contacts or groups from your Personal Address Book.

When you send the memo, the Mobile Notes e-mail application creates a new document in the mMailbox database and saves a copy of the document in the Sent view of the mMail database.

The mMailbox database serves as a temporary repository for messages. A local replica of the database resides on your handheld device, while another replica resides on a Domino server.

The mMailbox database on the server is a shared database. When you synchronize your handheld device with the server, the Domino Everyplace Enterprise server moves the new message to the server mMailbox database. A scheduled LotusScript agent running in that database copies messages to the server's local mail.box and deletes them from the mMailbox database.

From there, the Domino mail router delivers the messages to the appropriate Domino mail server/SMTP gateway.

9.8.2 Workflow-enable other Mobile Notes applications

The Mobile Notes e-mail application uses the @Mailsend function, which other mobile applications can call if the mMailbox application is installed. As with the mMail database, the @Mailsend function creates a new memo document in the mMailbox database.

When other applications use the @Mailsend function, the scheduled agent in the Domino server held mMailbox database copies the document to the server's local mail.box once you have synchronized the handheld device.

The Domino mail router delivers the mail document from there.

Attention: Set up the mMailbox filter document correctly to avoid a potential security risk. Because multiple users share the same mMailbox database on the server, all messages are stored temporarily in the same file. To prevent messages in mMailbox from synchronizing with the handheld devices, the mMailbox filter document should only allow users to send documents to the server mMailbox.nsf from their device.

To prevent users from receiving documents from mMailbox.nsf, do the following:

► Do not specify a view in the "Views" field of the filter document. This prevents any documents on the server from synchronizing with the handheld device.

► In the "Remove documents before sync" field of the filter document, specify **All**. This deletes documents form the handheld device that were sent during the previous synchronization session.

9.8.3 Implementing the e-mail Reference Application on Palm devices

The following describes the steps to implement the e-mail reference application.

Figure 9-86   Publish tab on Mobile Application Compiler Document

1. Open **mMail** in the Mobile Compiler Docs view.

2. Click the **Publish** tab to set the Domino server holding the Domino Everyplace EnterpriseS Administration database.

Note: The mMail and mMailbox application are already compiled for the Palm device. You do not need to compile and save the applications before publishing them.

3. Click **Choose "Publish To" Server/Filepath** button to select the Domino server or type in the server in the **Publish To Server** field.

4. Select **DEES Administration Database** in the Choose Database dialog, or type in the database in the **Publish To Filepath** field.

5. Click the **Publish** action button to publish the mMail database to the Domino Everyplace EnterpriseS Administration database.

Repeat the steps 1 to 5 for the **mMailbox** database.

6. Add your Domino server to the ACL of the mMailbox.nsf with at least Editor access.

The next step is to enable the MoveMail agent in the mMailbox to run on your Domino server.
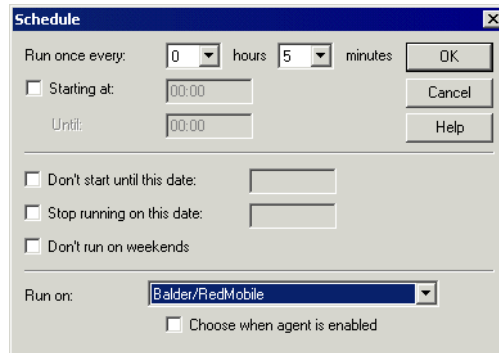
Figure 9-87   Domino Designer Scheduling agents

7. Open **mMailbox.nsf** from the Domino server in Domino Designer and edit the MoveMail agent.

8. Click **Schedule** and select your Domino server in the **Run on:** dialog list.

9. Save the agent.

To enable the users to synchronize their Personal Address Book into their mail file, you have to copy some of the design elements from the mMail.ntf file to your production mail template:

► Form
    – MSD AppDesign mMail
► Views
    – (mNotes_Contacts)
    – (mNotes_Contacts_NoIDs)
    – (mNotes_Groups)
    – (mNotes_Groups_NoIDs)
► Agent
    – Mobile Notes\Synchronize Contacts
► Script Libraries
    – mNotesSync

10. Update the mail files with the new template.

With the new design elements in the mail file, you can now synchronize the Personal Address book into your mail file.

11. Select **Mobile Notes\Synchronize Contacts** from the Actions menu.

12. The agent first synchronizes the contacts and then the groups.

Before allowing the users to synchronize the Mobile Notes applications, you have to alter the Mobile Application documents and the filter documents in the Domino EveryplaceS EnterpriseS Administration database. You should also create a Device Profile Template for both applications.

13. Open the **mMailbox** application profile document and select **Edit**.

14. Enter the **Database Server** and **Database Path and Name** on the Synchronization tab, as with any other database.

15. Select **No** to User Selectable. You have to select No to ensure that the applications function properly.

16. Enable the Mobile Application and save the document.

17. Open the **mMail** application profile document and select **Edit**.

18. Select **Domino Mail Database** as Database Location.

19. Make sure that **Database Server** and **Database Path and Name** both are left blank.

Attention: Leave the Database Server and Database Path and Name blank, since the Domino Everyplace Enterprise server will use the Domino Directory to locate each user's mail file that will contain the mMail application.

20. Select **No** to User Selectable. You have to select No to ensure that the applications function properly.

21. Enable the Mobile Application and save the document.

You should alter the filter document to ensure that the right documents and views are synchronized.

22. Open the **mMailbox** filter document and select **Edit**.

Figure 9-88   Domino Everyplace EnterpriseS Administration Database mMailbox filter document

23. Ensure that no view is specified in the **Views** field.

24. Select **All** in the Remove documents before Sync selection list.

25. Close and save the document.

26. Open the **mMail** filter document and select **Edit**.

27. Enter **($Inbox), ($Sent), ($Drafts)** and **($Contacts)** as the suggested views for synchronization.

28. Close and save the document.

To save some time, you should create a Device Profile Template so you only have to specify the applications and filters once.

29. Select the action **Create a Device Profile Template** from the Device Profile Template subview By Type.

30. Select the users to assign the mail applications to either by entering the users or groups in the **Assign to Users** field, or by selecting the Names lookup for the field.

Figure 9-89   Device Profile Template Applications & Filter Tab

31. Select the **mMailbox** and **mMail** applications and the corresponding filters in the Assign Application dialog.

32. Save and close the Device Profile Template document.

> **Note:** You should create the Device Profile Template document before you create device profiles for each user.

You can now let your user synchronize and install the new Mobile Notes Mail application.

9.9 Summary

This concludes our description of how to create mobile applications for handheld devices using Domino Everyplace Enterprise. We emphasize that mobile applications should not be designed or thought of in the same way as their counterparts in the Notes client or Web browser. Users of mobile applications seldom have the time or desire to put the same amount of information into a form as they would normally do using a PC-based client. Both the input and output facilities on a handheld are limited.

The real value of making Domino applications available on a handheld is that it is still a part of the workflow we are used to in Domino. The information processing on the handheld is just a part of a process, and hence does not have to take care of all tasks. Information can be partly filled in and then completed later, either by a server agent or by a desktop user.

By proper use of filters for synchronization, the mobile user will only have to deal with information that is relevant to a specific person, in a specific context.

Part 4

Reference

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Additional information on Domino Everyplace Access

This appendix provides additional information regarding the Domino Everyplace Access Server; it should be used for lookup and background material.

Although this information can be found elsewhere, such as in the product documentation, it is supplied here in order to provide a more complete reference.

Files copied during installation

During the different types of installations, various files are copied to the server and various modifications are made to the Domino Directory, as discussed here.

Install files

The following files are copied during the installation process.

Domino Directory

- ▶ MSDrt.dll
- ▶ msdwendstr.dll
- ▶ msdwendstrde.dll
- ▶ msdwendstrfr.dll
- ▶ msdwendstres.dll
- ▶ msdwendstrit.dll
- ▶ msdwendstrda.dll
- ▶ msdwendstrpt-br.dll
- ▶ msdwendstrnl.dll
- ▶ msdwendstrno.dll
- ▶ msdwendstrsv.dll
- ▶ msdwendstrfi.dll
- ▶ msdwendstrko.dll
- ▶ msdwendstrzh-cn.dll
- ▶ msdwendstrzh-tw.dll
- ▶ msdwstr.dll
- ▶ endstr.dll
- ▶ Adminstr.dll
- ▶ MSDCCStr.dll
- ▶ MSDCCstr.tlb
- ▶ MSDXmltran.dll
- ▶ MSDXmldesx.dll
- ▶ DOMSupport.dll
- ▶ XPath.dll
- ▶ XSLT.dll
- ▶ XMLSupport.dll
- ▶ xercesplatformsupport.dll
- ▶ xercesparserliaison.dll
- ▶ xalandom.dll
- ▶ lcppn21.dll
- ▶ MSDWRHBasic.dll
- ▶ MSDWPageGenerator.dll
- ▶ MSDWAppDigesterDb.dll
- ▶ MSDWCacheManager.dll

- ► MSDWXSLT.dll
- ► MSDWDesignManager.dll
- ► MSDWWMLCompile.dll
- ► MSDWInstutil.dll
- ► MSDWRHCalendar.dll
- ► MSDWRHAddressBook.dll
- ► MSDWAccessControl.dll
- ► MSDWRHMail.dll
- ► MSDWRHBasic.dll
- ► MSDWJNIDispatch.dll
- ► MSDWCerberus.dll
- ► MSDWsetupadmin.exe
- ► MSDWAppDigester.exe
- ► MSDWAppDigExtract.exe
- ► MSDWAppDigextract.exe
- ► MSDWAppDigester.exe
- ► MSDWAppCompiler.exe
- ► PRTCZ672NA.exe
- ► MSDWMain.dll
- ► xerces-c_1_3.dll

Domino Data Directory
- ► MSWDA.nsf
- ► DEASAppDesign.nsf
- ► DEAS_User.nsf
- ► DEAS_Admin.nsf
- ► DESLog.ntf
- ► MSDAdmin.ntf
- ► MSDDispatcher.jar
- ► DEASReadme.txt
- ► servletmanager.properties
- ► servlets.properties
- ► demo.wml

Database modifications

The following describes modifications made in current Notes databases on the Domino server.

Domino Directory
MSDWADMIN.NTF

- ► Forms
  - – Mobile\Application

- – Mobile\Browser Characteristics
  - – Mobile\Design Synopsis
  - – Mobile\Device Type Profiles
  - – Mobile\Shared Device List
  - – Mobile\User Home pages
  - – Mobile\User Home pages Submenu
- ▶ Subforms
  - – MobileServicesMenuSubForms
  - – MobileServicesPersonSubForms
  - – MobileServicesServerSubForms

Running the msdwsetupadmin.exe file to perform required install or uninstall

This program is used for installing and removing Domino Everyplace Access Server configuration files. The process is as follows:

- ▶ Check for Domino version: (Min. requirement 5.06)
- ▶ Copy/remove Mobile forms and views from msdadmin.ntf to names.nsf
- ▶ Replace/restore the original Mobile subform with the copy inside msdadmin.ntf

Update notes.ini files

- ▶ JavaUserClasses=C:\Lotus\Domino\MSDDispatcher.jar; (servlet path)
- ▶ DEAS=2.0 (version)
- ▶ DEASKitType=0 (install type)

Update Server document

- ▶ Add Internet protocols ->HTTP -> DSAPI field with msdwcerberus.dll
- ▶ Set Internet protocols -> Domino Web Engine -> Java Servlets -> Servlet support field to Domino Servlet Manager
- ▶ Set Internet protocols -> Domino Web Engine -> Java Servlets -> Servlet URL Path field to \Servlet
- ▶ Set Internet protocols ->Domino Web Engine -> Java Servlets -> Class path field to Domino\Servlet

Domino Everyplace Access Server requests

Domino Everyplace Access Server supports a large number of requests. Here are just a few.

Basic requests

OpenFile (OF), DeleteDoc (DD), AddToTrash (AT), EmptyTrash (ET), RemoveFromTrash (RT), OpenDoc (OD), OpenApp (OA), OpenSearch (OS), HomePage (HP), ReadItem (RI), ReadView (RV), Search (SH), AppRet (AR), CreateDoc (CD), SendFax (SF)

Address book requests

OpenAddressSearch (OAS), AddressSearch (AS), CreateContact (CC), CreateGroup (CG)

Calendar requests

CalFax (CF), CalSave (CS), CalSearch (CV, CH), CalOpenDoc (COD)

Mail requests

CreateMail (CM), SendMail (SM), MailOpenDoc (MOD)

If you are going to be using these requests, you must ensure that you enter them correctly. Use the following format as a guideline for all Domino Everyplace Access Server requests.

R=*name,* where *name* is the name of the request. For example, R=OD would open a document.

Most requests require more information to complete their tasks since you would need to know which $type$ of document to open. Request parameters have the format of PP=*value,* where *PP* is the name of the parameter and *value* is the value assigned to the parameter. For example, when opening a document with the request R=OD, you would specify which document to open by specifying the N parameter, with the value of this parameter set to the document ID of the document to open.

Parameters are separated from the request and from each other by an ampersand (&) character. Therefore, a Domino Everyplace Access Server request to open document ID 217 from your mail database may look something like this:

```
R=OD&A=Mail&N=217&EM=0
```

All Domino Everyplace Access Server requests *sent from* the wireless device must contain the host and servlet name and should be sent at the beginning of the request. This can be done by adding the string $(S:n) to the beginning of the request (this includes the value of a preset WML variable "S" into the URL). Therefore, the full Domino Everyplace Access Server request sent by a wireless device looks something like this:

```
$(S:n)R=OD&A=Mail&N=217&EM=0
```

Session state variables

Each Domino Everyplace Access Server request typically requires a number of request parameters. These parameters tell Domino Everyplace Access Server what the state of the current session is; for example, what the current application is, what the name of the current view is, and so on.

Each time Domino Everyplace Access Server processes a design element (a view or a form), it passes a set of variables to the design element containing the current session state. These variables can be included in the Action formula URLs to create new Domino Everyplace Access Server requests.

Table A-1lists these state variables. The following shows what the Domino Everyplace Access Server Request parameter associated with the variable, and the name of the variable passed to the View or Form containing the current value of the variable.

Table A-1   Listing of the state variable available to Domino Everyplace Access Server

Domino Everyplace Access Server request parameter	Variable passed to the view or form	Description
A	$app	The name of the current application.
V	$view	The name of the current view in the application.
P	$position	The current position within the view.
N	$document	The note ID of the current document.
N	$documents	If multiple documents are selected, the Note IDs of the currently selected documents.
ST	$multiselect	Whether the current view is displayed in multiple selection mode. 0 = No, 1 = Yes.
C	$criteria	The current search criteria in the view.

Domino Everyplace Access Server request parameter	Variable passed to the view or form	Description
EM	$mode	Whether the current document is opened in full mode or brief mode. o = Full, 1 = Brief.
DX	$DX	The device transaction number. This is a number maintained by Domino Everyplace Access Server. It allows Domino Everyplace Access Server to update pages of information even when they are cached on the device.
CID	$CallerID	The application called ID. This is a number maintained by Domino Everyplace Access Server. It allows one application to call another, and then return to the first (for example, when creating a mail memo, it allows the user to open the address book and return a mail address).
<NA>	$fax	Whether the fax service is available. 0 = No, 1 = Yes.

Standard WML variables

Since almost all Domino Everyplace Access Server requests require a common set of parameters, Domino Everyplace Access Server sets some WML variables containing these variables. This has two advantages:

1. It makes specifying action formulas simpler since there are fewer parameters to specify.
2. It saves space in the WML deck since the information is not repeated on each action URL.

Following are WML variables:

► $(S:n) - The servlet name which should be at the beginning of every request.

► $(A:n) - The variable contains the following session state variables - DX, CID, A, V, P, ST, B.
Note: the B variable is set only in views.

► $F - The view search criteria. This variable is set only in views.

Sending data entered in the device

Often it is necessary to send data entered on the wireless device as part of a Domino Everyplace Access Server request. For example, when creating a new memo, you want to send the recipients name, subject, and message text as part of the Domino Everyplace Access Server request.

On forms displayed by Domino Everyplace Access Server in edit mode, the data entered by a user into a field is saved in a WML variable called $*name*, where *name* is the name of the field in lower case. For example, if you have a form with a field named `SubjectField`, the text entered into this field by a user can be included in a Domino Everyplace Access Server request by using $subjectfield in the Action formula.

In any URL request there are two ways of sending data:

► As part of the base URL in the `Get` data
► As `Post` data, which is sent after the URL

Some parameters can be sent in the Get data, while other parameters can be sent in the Post data. The advantage of Get data is that it uses less deck space on the phone, thereby leaving more space for actual data.

However, any parameter that can be entered on the wireless device must be sent using the Post data. The reason for this requirement is that the character encoding of Get data is not defined, so non-ASCII characters can often become corrupt. Post data always specifies what the character encoding is, so the appropriate translation can be performed.

When specifying a Domino Everyplace Access Server request, indicate where the Get data ends and the Post data starts by including && as the separator between two Domino Everyplace Access Server parameters (instead of the normal & separators). All parameters after the && will be sent as Post data.

For example, to fax a copy of the current document, where the recipient's name is entered into the field SendTo, the fax number is entered into a field called FaxNumber, and the comment is entered into a field called Subject, you specify:

```
$(S:n)R=SF$(A:n)&N={$document}&&TO=$sendto&PH=$faxnumber&CO=$subject
```

Domino Everyplace Access Server parameter requests

The following describes the available Domino Everyplace Access Server requests, and the parameters that can be used on each request.

Application requests

You have the following application requests available: HP, OA, and AH.

The **HP** request re-displays the user's home page. It does not require any parameters except for the standard parameters described earlier. To display the user's home page, specify:

```
$(S:n)R=HP$(A:n)
```

The **OA** request displays the main menu of an application. It does not require any parameters except for the standard parameters described earlier. To display the application menu for the application Notepad, specify:

```
$(S:n)R=OA&A=Notepad&DX={$DX}
```

The **AH** request displays the help text for the specified application. It does not require any parameters except for the standard parameters described earlier. To display the help for the application Notepad, specify:

```
$(S:n)R=AH$(A:n)
```

View requests

The following view requests are available in Domino Everyplace Access Server. They are RV, OS, and SH.

The **RV** request displays the contents of a Notes view. Table A-2 lists the parameters accepted by the RV request:

Table A-2   Accepted RV parameters

Parameters	Description
IDX=1	Include the IDX=1 option on an RV request to ensure that the device does not re-display a cached copy of the view.
RD=1	Include the RD=1 option on an RV request to re-read and re-display the current application view. If you do not display this option, the view information already read by Domino Everyplace Access Server will be used.
C=*searchcriteria*	The search criteria, enclosed in apostrophes. The format of a search criteria is: name=value; name=value.... Where *name* is the name of a search parameter in the search formula, and *value* is the value to assign to that parameter when evaluating the formula.

To display the All view of the application NotePad:

```
$(S:n)R=RV&A=NotePad&V=All
```

To re-display the contents of the current view:

```
$(S:n)R=RV$(A:n)&RD=1
```

To refresh a view, using the same search criteria:

```
$(S:n)R=RV$(A:n)&IDX=1&C={$criteria}
```

To search a view for all documents which have a Subject field containing the text entered on the search form in field SearchSub:

```
$(S:n)R=RV$(A:n)&C={$searchsub}
```

The **OS** request displays the application's view search form. The view search form is used by the user to enter search criteria. These search criteria are then passed in an SH request to search a view for any documents that match the specified criteria. Table A-3 shows the parameter accepted by the OS request.

Table A-3   Accepted OS parameter

Parameters	Description
S=*forename*	The end of the search form name. Domino Everyplace Access Server adds the word `Search` to the beginning of the specified form name to obtain the full name of the Domino Everyplace Access Server Application search form.

To display the application search form called "SearchBySubject":

```
$(S:n)R=OS($A:n)&S=BySubject
```

The **SH** request searches a view and displays a list of the documents that match the specified search criteria. Table A-4 shows the parameter accepted by the SH request.

Table A-4   Accepted SH parameter

Parameters	Description
C=*searchcriteria*	The search criteria, enclosed in apostrophe's. The format of a search criteria is: name=value; name=value.... Where *name* is the name of a search parameter in the search formula, and *value* is the value to assign to that parameter when evaluating the formula.

Therefore, to search the current view using the application search formula with the Subject parameter entered into the search form in field SearchSub:

```
$(S:n)R=SH$(A:n)&&C='Subject=$searchsub'
```

Processing document requests

The following processing document requests are available: CD, OD, and SD.

The **CD** request creates a document and displays it on the wireless device. The document is not saved in the database unless the SD request is issued. Table A-5 lists the parameters accepted by the CD request.

Table A-5   Accepted CD parameters

Parameter	Description
EM=*editmode*	Specifies whether the document should be displayed in edit mode (EM=1) or in read-only mode (EM=0).
F=*form*	The Domino Everyplace Access Server application form which will be used to display the document.
__field=*value*	Sets the initial value of the field called field.

To create a new Notepad document and display it with the NotePad form:

```
$(S:n)R=CD$(A:n)&F=NotePad
```

To create a new Notepad document, initialize the Type field to Address, and display it with the NotePad form:

```
$(S:n)R=CD$(A:n)&F=NotePad&__type=Address
```

The **OD** request opens an existing document and displays it on the wireless device. The document is not saved in the database unless the SD request is issued. Table A-6 lists the parameters accepted by the OD request.

Table A-6   Accepted OD parameters

Parameters	Description
N=*documentid*	The document ID to be opened.
EM=*editmode*	Specifies whether the document should be displayed in edit mode (EM=1) or in read-only mode (EM=0)
B=*brief*	A flag that specifies whether the document should be display in full (B=0) or in brief (B=1) mode. This option will have no effect unless it is supported by the form, which will typically hide a number of document fields if the B=1 option is set.

To open the currently selected document (stylesheet parameter {$document}) in edit mode:

```
$(S:n)R=OD$(A:n)&N={$document}&EM=1
```

The **SD** request creates or updates a document in the application database. Table A-7 lists the parameters accepted by the SD request.

Table A-7   Accepted SD parameters

Parameter	Description
N=*documentid*	The *document ID* of the document to be updated. If this parameter is omitted, then a new document is created.
F=*form*	The database *form* which will be used to initialize the document.
__field=*value*	Sets the *value* of the field called *field*.

To create a new Notepad document with the NotePad form, and values entered on the device:

```
$(S:n)R=SD$(A:n)&F=NotePad&&__type=$type&__subject=$subject&__body=$body
```

To update the currently selected Notepad document and set the value of the fields in the document according to the values entered into the fields of the form (active fields are *subject* and *body*):

```
$(S:n)R=SD$(A:n)&F=NotePad&N={$document}&&__subject=$subject&__body=$body
```

Deleting documents

The following deleting document requests and are available: AT, DD, ET, and RT.

The **AT** request copies a document to the Trash folder of the database. This action does not delete the document, but instead marks it for deletion. (See the ET request for details of deleting documents in the Trash folder.) Table A-8 shows the parameter accepted by the AT request.

Table A-8   Accepted AT parameter

Parameter	Description
N=*documentid*	The *document ID* to add to the Trash folder.

Once the document has been added to the Trash folder, the display on the wireless device will be updated to either the current view, if any, or the application main menu.

To add the currently selected document (stylesheet parameter {$document}) to the Trash folder:

```
$(S:n)R=AT$(A:n)&N={$document}
```

The **DD** request deletes a document from the database. Unlike the AT request, there is no way to restore a document once it has been deleted. Table A-9 shows the parameter accepted by the DD request.

Table A-9   Accepted DD parameter

Parameter	Description
N=*documentid*	The *document ID* to delete.

Once the document has been deleted, the display on the wireless device will be updated to either the current view, if any, or the application main menu.

To delete the currently selected document (stylesheet parameter {$document}):

```
$(S:n)R=DD$(A:n)&N={$document}
```

The **ET** request empties the trash and deletes all of the document that are in the Trash folder of that database. Documents may be in the Trash folder as a result of a AT command, or they may have been added to this folder by some other mechanism (for example using the Notes client). There are no special parameters for the ET request.

To delete all documents in the Trash folder:

```
$(S:n)R=ET$(A:n)
```

The **RT** request restores a document to its original views/folders in the database, removing it from the Trash folder. This action is effectively an "un-delete" request. Table A-10 shows the parameter accepted by the RT request.

Table A-10   Accepted RT parameter

Parameters	Description
N=*documentid*	The *document ID* to be removed from the Trash folder.

Once the document has been removed from the Trash folder, the display on the wireless device will be updated to either the current view, if any, or the application main menu.

To remove the currently selected document (stylesheet parameter {$document}) from the Trash folder:

```
$(S:n)R=RT$(A:n)&N={$document}
```

Sending faxes

To send a fax, use the SF request. The SF request sends a fax to the specified fax number. This request is only supported if a fax service is available to process the request. This fax service can either be a Domino Fax Server or compatible fax server, or it can be a fax service provided by a UP.Link gateway.

The stylesheet parameter "fax" is passed to every stylesheet to indicate whether a suitable fax service is available. The fax parameter will be set to 1 if a fax service is available, or set to 0 if a fax service is not available. This parameter can be used to hide the Fax action on the wireless device if a suitable service is not available. Table A-11 lists the parameters accepted by the SF request.

Table A-11   Accepted SF parameters

Parameters	Description
TO=*recipient*	The name is the recipient.
PH=*faxnumbeer*	The fax number to send the fax to.
CO=*comment*	A comment or subject to add to the fax message.
TX=*text*	The text of the fax message.
N=*documentid*	The document ID of a document to fax.

Note: Specify either the TX parameter, or the N parameter, but not both.

Once the fax has been sent, the display on the wireless device will be updated to either the current view, if any, or the application main menu.

Specify the following request to send a copy of the currently selected document (stylesheet parameter {$document}) as a fax. The recipient's name and fax number and a comment have been entered into fields of a form (field names recip, faxnum and comment respectively). Note that the TO, PH and CO parameters are sent as Post data. The request would be:

```
$(S:n)R=SF$(A:n)&N={$document}&&TO=$recip&PH=$faxnum&CO=$comment
```

Emulators

If you do not have a WAP phone at hand, or do not want to go the full length at first in making your DEA server available to the Internet, you can test DEA by using a WAP emulator. Several major brands of mobile handsets allow you to download an emulator from their Web sites free of charge, provided you register yourself on their respective developer zone's Web site. One example is:

```
http://www.ericsson.com/mobilityworkd/open/technologies/wap/tools.html
```

We used emulators from Nokia and Ericsson in writing this book. The solutions are also tested live on Ericsson R520m and Siemens 40S.

Nokia Active Server WAP gateway

Nokia provides a publicly available WAP gateway free of charge for 30 days, after which you have to purchase a license for each of your wireless users. By using the WAP gateway in your test environment, you are able to simulate a production setup. The Nokia Activ Server software can be downloaded from:

```
http://www.forum.nokia.com/
```

To run the Nokia Activ Server, the software requires you to install Java 2 Runtime Environment (JRE), Standard Edition v1.3.1, and Java HotSpot™ Virtual Machine. These applications are available from Sun Microsystem's Web site:

```
http://www.sun.com/
```

This was the software that we used, along with BlackICE Firewall Software, to simulate a real life production environment during this redbook project.

Installing Nokia Activ Server software

This is a guide to installing the Nokia Activ Server 2.01 to test the wireless applications and services and connectivity from your Domino Everyplace Access Server.

You should have already downloaded the Java 2 Runtime Environment (JRE), Standard Edition v1.3.1, Java HotSpot™ Virtual Machine, Nokia Activ Server Software, and a Nokia Activ Server trial license. Follow these steps to install the application necessary to test your Domino Everyplace Access Server with the Nokia Activ Server software.

Java 2 Runtime Environment (JRE), Standard Edition v1.3.1

1. Execute the downloaded application.

2. Accept the Software License Agreement.

3. Choose your destination folder.

The InstallShield will copy the necessary files to your hard drive based on the information you provided in the previous steps.

Java HotSpot™ Virtual Machine

1. Execute the Java HotSpot™ Virtual Machine downloaded file.

2. Click **Next** at the Welcome Screen and Software License Agreement.

3. Select the second option, **Java 2 Runtime Environment/Plug In Option**.

Figure A-1   Java HotSpot Installation option

4. The setup will install the necessary files for the specified option and then display a pop up box indicating that Setup is complete.

Nokia Activ Server 2.01 installation

To install the Nokia Activ Server software, follow these steps:

1. Start the Nokia Activ Server software by double-clicking the executable file.

2. The Installshield will display a splash screen and then the Welcome Screen. Click **Next**.
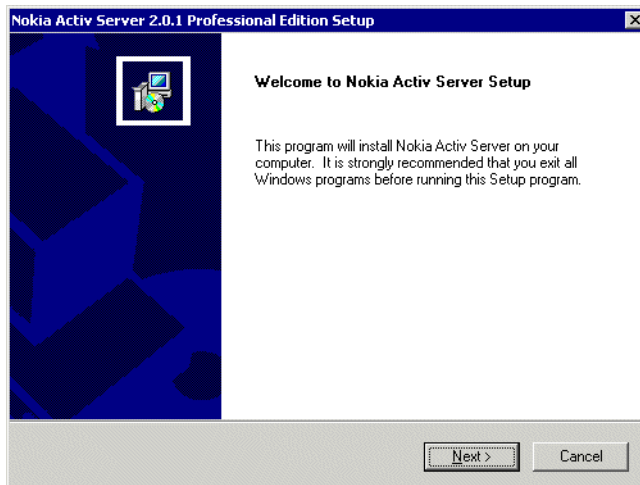
Figure A-2   Nokia Activ Server Setup

3. Select **Yes** to accept the Nokia License Agreement.
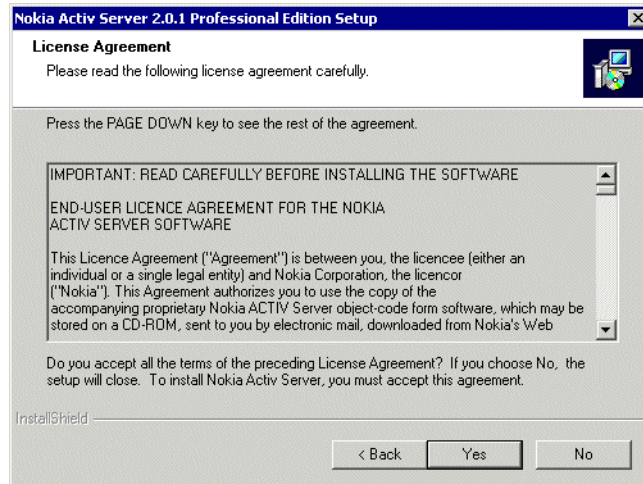
Figure A-3   Nokia License Agreement

4. Select **Yes** to accept the Java Comm License Agreement.
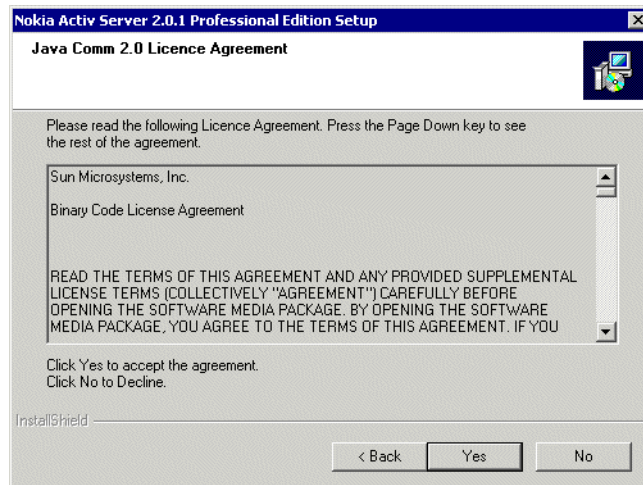
Figure A-4   Java Comm Licence Agreement

5. Click **Yes** to receive the Release Notes.
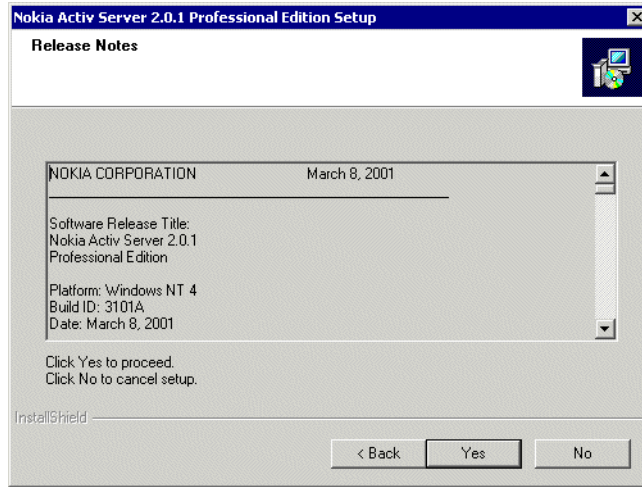
Figure A-5   Nokia Activ Server Release Notes

6. When you come to the Setup Type Screen, make sure that you select the Nokia Activ Server Installation. This will ensure that you install the Active Server as well as the Active Server Manager, which will allow you to control the Active Server WAP gateway.
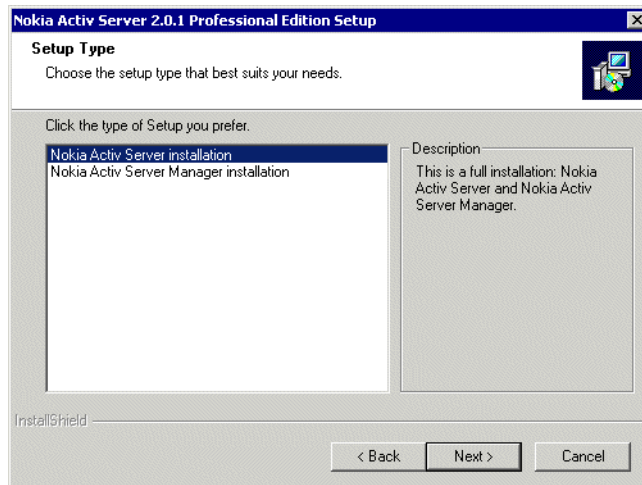
Figure A-6   Nokia Activ Server Setup Type

7. You will have to enter your License Number, which would have been sent to the address that was registered with Nokia on their Web site.
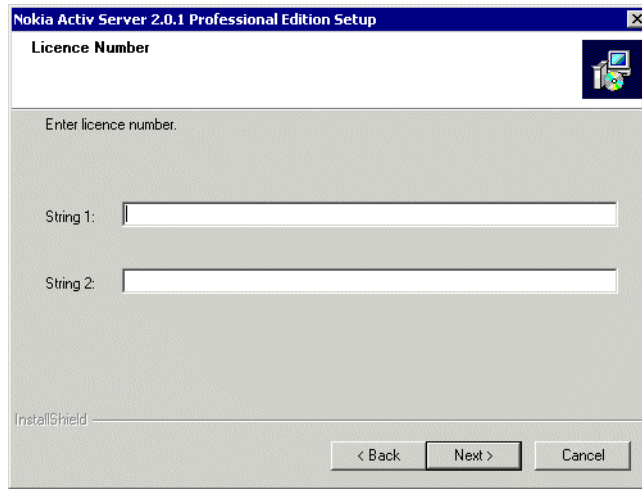
Figure A-7   License Number screen

8. Select the Destination for the installed files, and the Folder destination for your shortcuts.

9. The InstallShield will now copy all the necessary files. When finished, the installation will display confirmation that setup is complete. Click **Finish** to exit this pop-up screen.
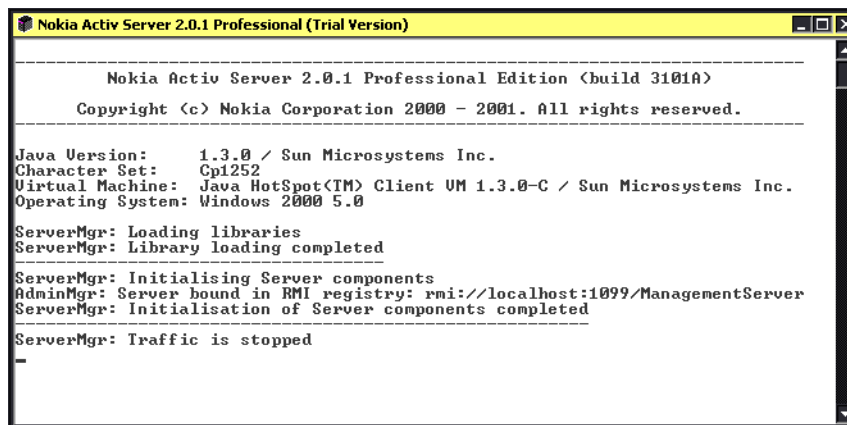
Figure A-8   Nokia Activ Server

10. Using the Start Menu, open the Nokia Activ Server software. When you first start the Nokia Activ Server software it will check to see if you have a valid server license, and you will receive a message saying `Traffic is Stopped`.

You will have to start the traffic on the server before you are able to test your Domino Everyplace Access Server setup.
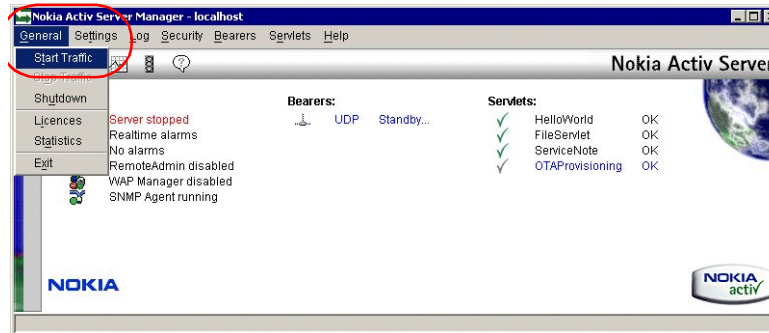
Figure A-9   Nokia Activ Server Manager - Starting Traffic

11. Using the Start Menu, click the **Nokia Activ Server Manager** and then click **Localhost**. Login with the username "admin" and leave the password blank. This will open up the Activ Server manager console. Click **General**, **Start Traffic**. This will start the traffic on the WAP gateway, which will allow you to start using your Domino Everyplace Access Server.

Issues regarding installation

The Domino Everyplace Access Server uses Java servlets which will conflict when used with the Nokia Activ Server. For optimum performance and reliability, is it best to install the Nokia Activ Server software on a separate machine.

Additional information on Domino Everyplace Enterprise

This appendix contains detailed lists of features supported by the Mobile Notes client, including: form objects, field and form properties, view objects, view properties, events, @functions and @commands.

It also provides guidance on troubleshooting, a list of error codes, and a list of files copied during installation. We also have a short remark about emulators on the next page.

Emulators

If you do not have a handheld device at hand or you want to use the PDA from your PC for presentation purposes, you can test DEE by using an emulator.

There are available emulators for both PalmOS and PocketPC. We used both of these in writing this book, complementary to testing on the actual device, Palm Vx, Palm m505 and iPaq 3600.

PalmOS

An emulator for the PalmOS is available at the following site:

`http://www.palmos.com/dev/tech/tools/emulator/`

Remember that you have to install the ROM for the emulator separately. This can either be downloaded form a connecting site, or you can transfrer a ROM image from an exciting Palm device, using a tool provided with the emulator.

PocketPC

You can get an emulator for the PocketPC by downloading and installing the PocketPC SDK from Microsoft on the following site:

`http://www.microsoft.com/mobile/developer/downloads/hpcprosdk.asp`

If you have a PocketPC device and just want to have it "running" on the screen of your PC for presentation and so on, you can use the Remote Display Control. This requires that you have an actual PocketPC connected to the PC using ActiveSync (the synchronization tool that comes with the device). You then get a console to the PocketPC device on your PC screen and can steer it using your keyboard and mouse connected to the PC. See the following site for the Remote Display Control:

`http://www.microsoft.com/mobile/pocketpc/downloads/powertoys.asp`

Domino Everyplace Enterprise supported objects, properties, events

The following lists the supported Domino design elements, Notes objects, and events you can use to design the Mobile Notes applications.

Domino Everyplace Enterprise supported form objects

The Mobile Notes client supports Domino forms, with the exception of view template, search, and search results forms. Table B-1 lists supported form objects and any limitations that the objects have in the Mobile Notes environment.

Table B-1   Supported form objects and limitations

Supported form fields and objects	Properties not supported
Checkbox	Computed for display Computed when composed Only single value defaults supported
Combobox	Allow multiple values Computed for display Computed when composed
Date/Time field	Allow multiple values
Form actions	Built-in actions are not supported
Hotspot buttons	None
Listbox	Allow multiple values Computed for display Computed when composed Only single value defaults supported
Number fields	Separate multiple values with a semicolon. Mobile Notes does not support colon separators entered by the user on the handheld device. However, it is fine to use colons as separators for default fields or in formulas in Domino Designer, as Mobile Notes will handle them correctly.
Password	None
Radio buttons	Allow multiple values Computed for display Computed when composed
Text fields	Separate multiple values with a semicolon. Mobile Notes does not support colon separators.

Domino Everyplace Enterprise supported field and form properties

The Mobile Notes client supports Domino forms, with the exception of view template, search, and search results forms. Table B-2 lists supported form properties and any limitations that they have in the Mobile Notes environment.

Table B-2   Supported field and form properties and limitations

Property	Limitations
Alias	Support for form and view alias only.
Computed	In the Mobile Notes client, the mobile application calculates the computed fields when the form is rendered. In the Notes client, the Notes application calculates the computed fields when you create, refresh, or save a document.
Default value	To list multivalued default values, quote each value separately as follows: "value1":"value2":"value3" Mobile Notes does not support the following syntax that Lotus Notes supports: "value1:value2:value3"
Documents	Response and Response to Response documents are not supported. In Mobile Notes, you cannot undelete a deleted document. Include a prompt in your mobile application to warn users about deleting documents from mobile applications. The Pocket PC supports a trash can similar to Notes. You are prompted to empty your trash and get a confirmation dialog, just like in Notes. The difference is that if you say no to the confirmation dialog, the trashcan icons go away in Mobile Notes, but remain in the Notes client.
Form formulas	Refer to *"Domino Everyplace Enterprise supported @functions" on page 368* and *"Domino Everyplace Enterprise supported @commands" on page 372*.
Form name	Form name limited to 25 characters.
Height	None.
Hide fields	Select the "Hide paragraph form Notes R4.6 or later" option to hide the field from the Mobile Notes client. Mobile Notes does not support any other hide-when option for hiding fields.
Multivalue fields	Checkbox, text, and number fields support multiple values. Combobox, date/time, dialog list, listbox, and radio button fields do not support multiple values.
On Open: Automatically enable Edit Mode	By default, Mobile Notes opens all documents in Edit mode. Also, by default, when you exit a document in Edit mode, Mobile Notes saves the document automatically without prompting you to save.
Width	None.
Window title	If you do not specify a window title, then Mobile Notes displays the form name by default.

Domino Everyplace Enterprise supported view objects

The Mobile Notes client supports view columns, but does not support simple functions in view columns.

Domino Everyplace Enterprise supported view properties

Table B-3 lists supported view properties and any limitations that the properties have in the handheld environment.

Table B-3   Supported view properties and limitations

Property	Limitations
Alias	Supported for form and view alias only.
Column title	None.
Hide column	None.
Sort	Sorting columns that contain formulas is not supported. Refer to the Domino Everyplace Enterprise Release Notes for more details.
View actions	Built-in actions are not supported.
View formulas	Refer to *"Domino Everyplace Enterprise supported @functions" on page 368* and *"Domino Everyplace Enterprise supported @commands" on page 372.*
View name	None.

Domino Everyplace Enterprise supported events

The Mobile Notes client supports the following events for forms and views:

► PostOpen
► QueryClose
► QueryOpen
► QuerySave

For descriptions of each event, refer tor Domino 5 Designer Help.

Note: Mobile Notes does not call the QuerySave event if you exit a mobile application by clicking the Application button on a handheld device.

Domino Everyplace Enterprise supported @functions

Table B-4 lists supported @functions and their limitations, if any.

Table B-4   Supported @functions and limitations

@function	Limitations
@Abs	None.
@Adjust	The [dst] argument is not supported. Palm device does not display seconds.
@All	None.
@Begins	None.
@Char	Upper ASCII keys not supported on Palm. On the Pocket PC, the only LMBCS characters supported are in the 0x80-0xff range (LMBCS optimized Group 1 characters).
@Contains	None.
@Created	None.
@Date	Only constants supported. The Pocket PC supports year date values from 1752 - 2999. The Palm supports year date values from 1904 - 2031.
@Day	None.
@DbColumn	Class, "No Cache", and server arguments are ignored. The key value column must precede the return value column in a view.
@DbExists	@DbExists (server; file) is supported, but @DbExists(server; replicaID) is not supported. The file argument must have the NSF file extension. Use "" in place of the server argument to denote a local client, since the handheld cannot search a remote server for its .nsf files.
@DbLookup	Specifying two keys in a single @DbLookup expression is not supported. Instead, use two @DbLookup functions separated by a colon. The key value column must precede the return value column in a view.
@Do	None.
@DocumentUniqueID	None.
@Elements	None.
@Ends	None.
@Environment	None.
@Error	None.

@function	Limitations
@Failure	None.
@False	None.
@GetDocField	$Ref is not a supported documentUNID alternative.
@Hour	None.
@If	Comparisons of different data types is not supported. Unlike Lotus Notes, Mobile Notes does not return an error message when comparing different data types with @If.
@Implode	None.
@Integer	Integers limited to the range -2^31 to +2^31-1.
@IsAvailable	If you want to pass a field name to the @IsAvailable function, enclose the field name in quotation marks, for example: @IsAvailable("*Field_Name*") If you do not quote the field name, Mobile Notes assumes that the named field's value is its argument.
@IsDocBeingEdited	None.
@IsError	None.
@IsMember	None.
@IsNewDoc	None.
@IsNotMember	None.
@IsNumber	Support for single values only. Lists of values are not supported.
@IsText	None.
@IsTime	None.
@Left	None.
@LeftBack	None.
@Length	None.
@LowerCase	Double-byte character set conversion is not supported.
@MailSend	None.
@Max	Pocket PCs: Only numbers between -2,147,483,648 and 2,147,483,647 are supported.
@Member	None.

@function	Limitations
@Middle	None.
@MiddleBack	In Mobile Notes, if you enter multiple characters for the start string argument, the result string returns all characters except the first one. For instance, if the string value is "apple" and your startstring value is "app", the resulting string is "pple" rather than "le."
@Min	Pocket PCs: Only numbers between -2,147,483,648 and 2,147,483,647 are supported.
@Minute	None.
@Modulo	Pocket PCs: Only numbers between -2,147,483,648 and 2,147,483,647 are supported.
@Month	None.
@NewLine	None.
@No	None.
@Pi	None.
@Prompt	Filetype argument not supported. OKCancelListMult and LocalBrowse dialog box styles are not supported. Sorting is not supported. Multivalue fields not supported. Use @Implode for multivalue fields.
@ProperCase	Single-byte character set support only.
@Random	None.
@Repeat	None.
@Replace	None.
@Return	None.
@Right	None.
@RightBack	None.
@Round	Palm devices: Numbers greater than 35,000 are not supported. Pocket PCs: Only numbers between -2,147,483,648 and 2,147,483,647 are supported.
@Second	Palm device does not display seconds.
@Select	None.
@Set	None.

@function	Limitations
@SetDocField	$Ref is not a supported documentUNID alternative.
@SetField	None.
@Sign	None.
@Subset	None.
@Success	Not supported for input validation.
@Sum	Pocket PCs: Only numbers between -2,147,483,648 and 2,147,483,647 are supported.
@Text	None.
@TextToNumber	Exponents are not supported by the PalmOS. There are integer and fraction limitations on the PalmOS.
@TextToTime	None.
@Time	None.
@Today	None.
@Tomorrow	None.
@Trim	Japanese Palm devices do not support full-pitch space.
@True	None.
@Unique	None.
@UpperCase	None.
@UserName	None.
@Version	None.
@Weekday	None.
@Year	None.
@Yesterday	None.
@Zone	Time zones that are not full-hour increments from GMT are not implemented. Also, on the Palm, daylight saving time information is not returned, but on the Pocket PC it is.

Domino Everyplace Enterprise supported @commands

Table B-5 lists supported @commands and their limitations, if any.

Table B-5   Supported @commands and limitations

@command	Limitations
@Command([Compose])	The server and database arguments are required. Use an empty string ("") to denote the server name. For example: **@Command([Compose];"";"*form_name*")**
@Command([EditCut])	Deleted documents are not pasted to the clipboard. Command works in views only. If desired, you must manually add a prompt to ask the user whether or not to delete a document. For example: **@If(1 = @Prompt([YESNO];"Delete"; "Are you sure you want to delete the selected documents?"); @Command([EditCut]);"")**
@Command([EditDocument])	None.
@Command([FileCloseWindow])	Because the Mobile Notes client does not support multiple windows, the @Command([FileCloseWindow]) returns you to the most recently open view. If you did not open a view during the current session, then @Command([FileCloseWindow]) closes the mobile application and returns to the launch screen. If your mobile application home page is a form and you want to return to the home page rather than the launch screen, use @Command([Compose];"";"Form Name) and include the name of the form that is your home page. If you create a mobile application without views, include a button on the document forms that returns the user to the previous document. Use @Command([FileCloseWindow]) on the initial document to exit the application.
@Command([FileSave])	None.
@Command([OpenDocument])	The @Command([OpenDocument]) always opens documents in read mode regardless if you pass a "0" or "1" parameter.
@Command([OpenView])	None.
@Command([ViewRefreshFields])	None.
@Command([ViewSwitchForm])	Do not use @Command([ViewSwitchForm]) in a view, instead use @Command([Compose]) in a view.

Domino Everyplace Enterprise troubleshooting help

The following section contains troubleshooting help for:

► Mobile Notes Application Design
► Mobile Notes client
► Domino Everyplace Enterprise Server

Mobile Notes Application Design troubleshooting

The following contains troubleshooting guidance for Mobile Notes Application Design.

32-bit integers and number values

Because handheld device interpreters use 32-bit integers, the number value range for @functions that include number arguments is -2147483648 to 2147483647.

Adding, editing or removing formula variable fields

If you add, edit, or remove formula variable fields on a filter form after publishing once or running AppSync, make sure to compile and save the application again before you republish it. If you do not compile and save before republishing, your changes will not take effect.

Built-in actions support

When you design a mobile application, keep in mind that the Mobile Notes client does not support built-in actions.

Checkbox and listbox value support

When you design a mobile application, keep in mind that the Mobile Notes client supports only single default values for checkbox and listbox fields.

Column support for simple functions

When you design a mobile application, keep in mind that the Mobile Notes client does not support simple functions in view columns.

Compile and save an application before running AppSync

Before you press the AppSync button, you must compile and save the mobile application. If you press the AppSync button before you compile and save the application, you receive the following error message, which does not clearly state the problem: `Error detaching Application Digest.`

Compiling mobile applications in active databases

Do not compile mobile applications from databases that may be in use by other users. Doing so causes errors in Mobile Notes.

Compiling mobile applications in replica databases

Do not compile a mobile application of a target database, then compile the same mobile application from a replica target database. When you replicate the databases, Domino does not recognize that the same design elements exist in each replica, so it creates two of each design element.

Instead, compile a mobile application of one database, then replicate with other databases. If you must recompile the mobile application, do so with the original target database, then replicate again.

Dashes in number fields

When you design a mobile application, keep in mind that the Mobile Notes client does not support dashes in number fields. If you want to enter characters and numbers in a field, create a text field.

Default field value syntax

When you design a mobile application, keep in mind that the Mobile Notes client supports default field values with each value quoted separately as follows: "value1":"value2":"value3" instead of the following, which is supported by the Notes client: "value1:value2:value3."

Design elements are not displayed

If your target database is open in either the Notes client or Domino Designer when you create a new Mobile Application Compiler document, you need to exit the database and re-enter it before the new compiler document and view will be visible.

Displaying mixed data types in columns

Do not specify the same name for fields of different data types on different forms. If you create a column that displays a field that contains different data types or that displays a field that contains incorrect data types, Mobile Notes cannot display the field values correctly.

Do not delete or rename DTDs

If you delete or rename the DTD files, you may cause the Mobile Application Designer to terminate abruptly.

Error occurs with two spaces in the Design Name

Do not include two spaces in a design name. You cannot compile a mobile application with a design name that contains two spaces.

Error when recompiling

There is a problem if you try to recompile a Mobile Application Compiler document and then make changes to the application in Designer. If you delete the Mobile Notes related forms, views and subforms within the application in Designer and use the Mobile Application Design database to create a new Mobile Application document, you will get an error that one already exists. If you then go to the Mobile Application Compiler document in the application database, and try to recompile, not all the forms and subforms will be created.

Field errors and formula execution

When an error occurs in a document, Mobile Notes continues to execute code, which can result in loss of data. For instance, if you enter an incorrect value in a field, then switch forms through the @Command([ViewSwitchForm]) formula, an error message warns you that the value is invalid; however, Mobile Notes continues to execute the formula. Because the formula closes a window, you lose data.

Form name contains commas

Avoid using commas in Form names as they cause compiler errors.

Form objects not displayed

If an unknown attribute error is generated by Appsync, objects that come after the point in which the error occurred will be hidden. If you get this error when running Appsync, do not use the resulting file unless no other objects follow the object or property that generated the error as it may cause a crash. If you know what caused the error, change or remove that object, recompile, and run Appsync again.

The following Notes properties are known to cause such an error:

Field Property: you must have "Show field delimiters" selected.

Field Property: Tab Key: Position in tab order and Give field initial (default) focus

Form Property: On Open: Automatically enable Edit Mode

Date/Time Field Property: years that display four digits

Forms and window titles

If you specify a window title for a form, Mobile Notes displays the title. If you do not specify a window title, Mobile Notes displays the form alias. If the form does not have an alias, Mobile Notes displays the form name as the window title.

Hidden fields

To hide a field from the Mobile Notes client, select only the "Hide paragraph from Notes R4.6 or later" option on the "Paragraph Hide When" tab of a Field Properties box. Mobile Notes does not support other hide when options on that tab. Selecting more than one hide-when option will not hide the field from the Mobile Notes client.

Home page documents

If you select Home page type "document" on the Mobile Application Compiler form, paste into the Home page field a doclink to a document that resides in the target database. Do not paste a doclink to a document that resides in another database. If you do paste a doclink from another database, no error message occurs.

Input translation and input validation formulas support

When you design a mobile application, keep in mind that the MobileNotes client does not support input translation and input validation formulas.

Maximum of 50 warnings/errors when compiling

When compiling a mobile application, the Mobile Application Designer allows a maximum of 50 warnings/errors. If more than 50 errors occur, the Mobile Application Designer will not complete compilation and will prompt you to fix the errors in the application. If fewer than 50 errors occur, the Mobile Application Designer will compile the application. However, note that even a single error in an application can result in unexpected behavior.

Mobile application design name

In the Mobile Application Design database, you must enter a name for the Title and Design name fields. Avoid using an asterisk (*) in the Design Name since it may cause an error, and you will be unable to compile your application.

Republishing a modified filter form

If you modify a previously published filter form and republish to the administration database, the Mobile Application Designer deletes the original filter form, replaces it with the modified filter form, and updates the filter documents in the administration database based on the modified filter form. However, the Mobile Application Designer does not refresh filter document fields whose default values have changed. It is recommended that after you republish the filter, you or the administrator check the fields on the filter documents in the administration database for the correct values.

Response and Response to Response document support

When you design a mobile application, note that the Mobile Notes client does not support Response or Response to Response documents.

Run AppSync on local databases only

If you compile a mobile application from a target database located on a server and want to run AppSync to test the application, create a local copy or replica of the target database, then run AppSync from the local database. Do not run AppSync on a server copy or replica of a target database.

Spaces in form names

You must remove any spaces in form names, otherwise, errors occur when you compile or attempt to view documents using @Command[(ViewSwitchForm)].

Specifying a view twice in the Mobile Application Compiler doc

If you specify a view twice in the Mobile Application Compiler document, Mobile Notes terminates abruptly when you attempt to load the application.

Specifying constants in the Date/Time field

When specifying a constant in a Date/Time field, enclose all date constants in square brackets. If you do not enclose date constants in square brackets, the constant does not appear on a document.

Testing mobile applications

When you run AppSync to create a device specific file, then load the mobile application and Mobile Notes on a handheld device or emulator, you must click the mobile application icon once. Then, click the m-Notes icon to open the Mobile Notes workspace where the application icon was added.

Time-only display in date/time fields

When you enter a value in a time-only date/time field on a Lotus Notes client, the client does not provide time zone information, so it cannot send the information to the device when you synchronize. This behavior is inherent in Lotus Notes because of the way the date "wildcard" is represented. Mobile Notes uses a UTC/TZ representation of time, even if time is displayed as time-only or date-only. When Mobile Notes receives a time without time zone information, it uses its own time zone from the locale settings. When sending date/time field information, Mobile Notes sends a full UTC date and time.

If the handheld device generates the time and synchronizes with the server in a field that is time-only, then only the time is sent (UTC with the time zone). The server ignores the time zone, so the time is incorrect by the device's offset from UTC. In general, expect correct behavior only if the full date/time is used.

It is strongly recommended that you derive time-only fields for Mobile Notes from date/time fields on a non-mobile version of the mobile form that the server populates. Note that time fields display correctly on the non-mobile form if the value originates from a date/time field on the Mobile Notes client, whether the field is computed or otherwise.

Using more than one @DbLookup function

When you design a mobile application, note that the Mobile Notes client does not support specifying two keys in a single @DbLookup expression. To resolve this problem, use two @DbLookup expressions separated by a colon.

View calendar setting

If you modify and compile a view in Designer to use the Calendar Format and then try to change the view back to Standard Outline setting, the calendar setting will still appear.

View columns and functions

Although Mobile Notes supports regular view column formulas, sorting a column with formulas is not recommended because Mobile Notes determines the data type of each column in a view and converts non-text data types to text for columns that evaluate a formula. Mobile Notes uses a view cache to quickly open a view after the view cache is built. It stores the view cache in a relational database, DB2e, to take advantage of DB2e sorting capability. Mobile Notes builds the view cache the first time a view is opened.

A view column that is a formula can evaluate to any data type. Because of the time required to evaluate the column formula on many documents to determine the data type, the view cache considers all columns that evaluate a formula data type as text. When Mobile Notes populates the rows in the view cache with data, any column that evaluates to a data type other than text is changed to text. For this reason, Mobile Notes can sort computed columns incorrectly. For example, a number result of "2" would sort after a number result of "11" after the results were converted to text.

To have a column that is sorted by a computed value, add a computed hidden field on the mobile form(s). Use the field as a sort column in a view. This may require that you write an agent to add the hidden field to all documents of an existing database that you want to compile into a mobile application.

"Do not show this design element in menus" property support

When you design a mobile application, note that the Mobile Notes client does not support the "Do not show this design element in menus" property on the Design Document Properties box. Selecting that property causes an XML translation error when you compile the mobile application.

= operator and empty strings

Do not use the "=" operator with an empty string, for instance, Field_Name="". Under these conditions, Mobile Notes produces a logical value of true, regardless of the actual results. To resolve this problem, use @Length or @Implode to compare strings.

@Command([Compose]) is case sensitive

While the compose command is not case sensitive in Notes, it is case sensitive when used for mobile applications. When you specify a form name in the @Command([Compose]), it must match the database form name in case as well as in characters.

@Command([FileCloseWindow]) automatically saves

The @Command([FileCloseWindow]) should close without saving; however, it saves automatically without prompting you first.

@DbLookup returning truncated values

If you use @DbLookup to display column values, be aware that the function returns values of approximately 33 characters. If your values exceed 33 characters, then @DbLookup returns truncated the values in the column.

@Time(@Now) returning incorrect value

If using the function @Time(@Now) returns an incorrect time value, create a hidden date/time field in your form and display the value of that field.

Mobile Notes Client troubleshooting

The following contains troubleshooting guidance for Mobile Notes Client.

Computed fields rendered when form is rendered

In Mobile Notes, the mobile application calculates the computed fields when a form is rendered or refreshed. For instance, if Field_1 is a computed field that adds the value of Field_2 + Field_3, the value of Field_1is not computed until the form on which the field resides is rendered. If you change the value of Field_2, then Field_1 is not updated until you render the form again. Views or other forms that display the value of Field_1 display incorrect values until you save, close, and reopen the form, or you refresh the form to update the field.

Daylight savings and time zone setting

To adjust Mobile Notes for daylight saving time, add 60 minutes from your time zone setting. For instance, if your time zone setting is -300 for Eastern Standard Time (EST), enter -240 to account for daylight saving.

Documents are in edit mode

Documents are always editable. There is no read mode.

Emulator device ID limitation

When using an emulator, the device ID in the Server Preferences of Mobile Notes defaults to 222. It is recommended that you change the device ID to avoid server conflicts with other users who may be using the default ID. When you change the device ID, do not include spaces or special characters in the new ID.

Filter form truncation settings

If you want to apply new truncation settings to documents that you have already synchronized to your handheld device, you must first select the All option for the "Remove documents before sync" field. You do not need to select the All option for subsequent synchronizations in which the truncations settings remain unchanged.

HotSync Manager and sync router

Though the Domino Everyplace Enterprise User's Guide states that you must manually disable HotSync Manager before using sync router, sync router will automatically disable the "Local" setting in HotSync Manager. This allows sync router to use the COM port while HotSync is still running. After you synchronize with the Domino Everyplace Enterprise Server, if you want to use HotSync again, close sync router, then manually re-enable the "Local" setting in HotSync Manager.

Mobile Notes and Palm editing dialog boxes

To close a Palm editing dialog box while in Mobile Notes, you must click on an area outside of the dialog box. Palm dialog boxes do not close automatically in Mobile Notes as they do in other Palm applications.

Refreshing Palm icons

On the emulator, if the user installs wbxmllb2.prc, and then clicks the Welcome icon immediately afterward, the icon label changes from Welcome to wbxmllb2. The Welcome screen is inaccessible until the user refreshes the Palm Home screen (for example, by clicking the Calculator button and then the Home button again).

Workaround: On the Palm emulator, after installing a mobile application and the related files, refresh the Home screen by clicking the Calculator button and then the Palm Home button.

Selecting action buttons

It is possible for action buttons to overlap other objects on a form if the form is too long. The overlap will prevent you from being able to select the action button. Therefore, it is recommended that if a form includes action buttons, the forms should not exceed 10 lines.

Soft rest (restarting) a Palm device

Before performing a soft reset, always exit Mobile Notes and return to the Palm Applications. Performing a soft reset on your Palm device while in Mobile Notes can cause fatal errors when you reopen Mobile Notes.

Synchronization error 699

If you receive an error 699 synchronizing with a server, ensure that you have Domino Servlet Manager running as the Java Servlet support option in the Server document. Failure to do so will disable Mobile Notes ability to connect to a Domino Everyplace Enterprise Server.

Unread document status

The Mobile Notes client does not support read/unread documents (that is, it does not recognize when a document is read or unread). If you use the "Unread docs only" field on a filter document to synchronize unread documents with your handheld device, you will find that you receive the same documents each time you synchronize.

Unselected application installed from application catalog

If Mobile Notes installs an application that you did not want installed from the application catalog, deselect the application checkbox and remove the application file from the handheld device. Refer to the handheld device documentation for instructions on how to delete application files.

View and form actions support

Mobile Notes does not support the default view or form actions present in Domino Designer.

"Sync date" field hide-when formula and Mobile Notes

When you choose the "No date" or "Last sync" option in the "Sync documents since" field of a filter document, the "Sync date" field should be hidden. However, the hide-when formula for the field does not work in Mobile Notes. If you choose "No date" or "Last Sync" and a date appears in the "Sync date" field, you can remove the date from the field. If you do not remove the date, Domino Everyplace Enterprise Server will ignore the value.

Domino Everyplace Enterprise Server troubleshooting

The following contains troubleshooting guidance for Domino Everyplace Enterprise Server.

Deleting App Profile documents from an administration database

When you delete an Application Profile document from an administration database, you are prompted to delete all reference documents. If you choose to delete all references, be aware that the filter form associated with the Application Profile document is not deleted from the database. The filter form remains in the database in case another Application Profile document references that filter form. If you want to delete the filter form, use Domino Designer to remove the form.

Error message returning admin database name

Synchronization error messages that you receive from the Domino Everyplace Enterprise Server may contain the Domino Everyplace Enterprise Server Administration database name rather than the mobile application title.

Error message: "Device profile not found"

Once you successfully synchronize a handheld device with a Domino Everyplace Enterprise Server, you cannot synchronize with the server again using the same device but a different user name. During the first synchronization, the server created a device profile document in the Domino Everyplace Enterprise Administration database using your unique device ID and your user name listed in your Mobile Notes server preferences. If you attempt to synchronize using another user name, but the same device ID, the server returns the error message "Device profile not found."

Error opening filter document on Domino Everyplace Enterprise Server Administration database

If you open the Domino Everyplace Enterprise Server Administration database, publish a mobile application to the database, then attempt to open a filter document in the database, you receive an error message. This is a Lotus Notes limitation. To resolve the problem, close the Domino Everyplace Enterprise Server Administration database, then reopen the database and open the filter document.

Error "Unauthorized to perform operation"

If you receive the error "Unauthorized to perform operation" when attempting to download a mobile application, then a Domino Everyplace Enterprise server was specified in the Database Server field of the Application Profile Document. If you use the Domino Everyplace Enterprise Server to host mobile applications for downloading, you do not need to specify the server in the Database Server field.

Error: "The user has insufficient access..."

Users with author access cannot modify their documents after synchronizing them with the Domino Everyplace Enterprise Server. Users who attempt to modify documents that they created receive the error message "The user has insufficient access to update the document in application ... db." Once the user synchronizes the document with the server, any user with Editor access or higher can add the author's name to the Authors field in the document to enable the user to edit the document.

Opening Domino Everyplace Enterprise Server Log database

After the Domino Everyplace Enterprise Server Log database is created, you must enter the file name (DESLOG.NSF) in the Filename field of the Open Database dialog box to open the database. The log database is not listed in the Database window.

Views field of filter document

The Views field of the filter document is the only required field. Either the administrator or the handheld device user, if allowed, can complete the field. If no view is specified in the application database, the handheld device will not synchronize with the Domino Everyplace Enterprise Server.

Domino Everyplace Enterprise error codes

Since the status message on the device is much abbreviated from the server log entry, a user should also provide the administrator with the device ID or user name and the time a problem occurred to help identify the log entry that corresponds to the problem.

Table B-6 lists the error codes that the user sees in the device's status dialog box during synchronization, and then lists the corresponding messages that the administrator sees in the log file. For example, for error 602, the user might see `Communication error -602 Synchronization ended,` while the log file would indicate the reason synchronization failed. The last two columns of the table provide descriptions and solutions.

Table B-6   Domino Everyplace Enterprise error codes

Error codes	Error message	Description	Solution
300	Failed to open adapter	Internal error codes that provide diagnostic information. The codes indicate an installation problem, such as a missing component or a component that does not work properly.	Delete the Mobile Notes files from the handheld device, then reinstall Mobile Notes. Note Error 606 may indicate a network connection error. Make sure that you are connected to the network, then synchronize with the server again. This error can occur if you remove the handheld device from the cradle while synchronizing.
301	Failed to load adapter		
302	Failed to close adapter		
303	Sync Engine setup failed		
605	Failed to receive acknowledgment		
606	Failed to open Net library		
607	Failed to load Net library		
608	Failed to close Net library		
699	Unknown network error		
304	Authentication failed - synchronization aborted	Incorrect server preferences settings.	User or short name and/or Internet password were entered incorrectly. Check the server preferences for the user name and password settings.
609	Failed to resolve host name	Server TCP/IP address entered in the server preferences cannot be found.	Check the TCP/IP address.

Error codes	Error message	Description	Solution
600	Failed to open connection	Communication errors that result when: - Network is unstable or busy - Server is busy or not responding	Check the network connection, then try again.
601	Failed to establish connection		
602	Failed to send request		
603	Failed to receive reply		
604	Time out while receiving reply		
58004	Internal component error	Internal error code that indicates a component is not working properly.	Attempt to solve the problem as follows. If Step 1 doesn't work, proceed to Step 2, and so on. 1. Reopen the mobile application and try again. 2. Restart Mobile Notes and try again. 3. Restart the device and try again. 4. Remove the application from the device, reload the application, and try again.

Files copied during Domino Everyplace Enterprise installation

When installing the different parts of Domino Everyplace Enterprise, several files are copied to the local hard drive and the wireless devices.

Domino Everyplace Enterprise server installation

The following files are copied to the Domino server during the installation process.

Domino Directory

- ► lcppn21.dll
- ► MSDccStr.dll
- ► MSDccStr.tlb
- ► DEESrt.dll
- ► MSDxmldesx.dll
- ► MSDxmltran.dll
- ► DEESendstr.dll
- ► DEESadminstr.dll
- ► wbxmllb2.dll
- ► MSDAdmin.dll
- ► MSDSyncAdapter.dll
- ► DEESsyncstr.dll
- ► Xerces-c_1_5_1.dll
- ► DXLTools_74.dll
- ► domino.dtd
- ► MSDServlet.jar
- ► xml4j.jar
- ► MSDSSServlet.jar

Domino Data Directory

- ► DESLog.nft
- ► DEESAdmin.ntf

Domino Everyplace Enterprise desktop installation

The following files are copied to the local desktop PC during the installation process.

Lotus Notes Directory

- ▶ DEESendstr.dll
- ▶ DEESrt.dll
- ▶ lcppn21.dll
- ▶ MSDAppCl.dll
- ▶ MSDAppDev.dll
- ▶ MSDccStr.dll
- ▶ MSDccStr.tlb
- ▶ MSDCompile.dll
- ▶ MSDPublish.dll
- ▶ MSDxmldesx.dll
- ▶ MSDxmltrandxl.dll
- ▶ wbxmllb2.dll
- ▶ MSDPiix.dll
- ▶ MSDAppSync.dll
- ▶ domino.dtd
- ▶ deviceprofile.dtd
- ▶ xerces-c_1_5_1.dll
- ▶ DXLTools_74.dll
- ▶ pilrc.exe
- ▶ rcpalm.exe

The files are copied to the Notes path you selected during the installation; see Figure 9-17 on page 267.

Lotus Notes Data Directory

- ▶ MSDDesigner.nsf
- ▶ DESLog.ntf

The files are copied to the Notes Data path you selected during the installation; see Figure 9-18 on page 267.

Domino Everyplace Enterprise Sync Router installation

The following files are copied to the local desktop PC during the installation process.

Sync Router Directory

- ▶ mrouterGateway.dll
- ▶ mrouterSerial.dll
- ▶ mrouterTCP.dll
- ▶ mrouterWinsock.dll
- ▶ sync router.exe

The files are copied to the directory where you chose to install the Sync Router; see Figure 9-19 on page 268.

Domino Everyplace Enterprise installation for PalmOS

The following files are copied to the local desktop PC during the installation process.

Lotus Notes Directory (..\PRC)

► mnotes.prc
► wbxmllb2.prc
► DB2eComp.prc
► DB2eRunTime.prc
► imsanotes.prc
► imsamconfig.prc
► wbxmllib.prc
► isynce.prc
► PBSPkcs11.prc

The files are copied to a new directory, PRC, created in Notes Data path you selected during the installation, see Figure 9-18 on page 267.

The files are also copied to the HotSync installation directory for all the users you have created in the Palm Desktop program, for example:

```
C:\Palm\bmobile\Install
```

where C:\Palm is the Palm Desktop installation directory, and bmobile is the user.

Domino Everyplace Enterprise installation for Pocket PC

The installation tries to install the Mobile Notes client on the Pocket PC device automatically.

\My Device\Program Files\MobileNotes

► DataWrite.exe
► DB2e.dll
► db2ejdbc.dll
► ismaconfig.dll
► isynce.dll
► MNClient.dll
► MNISyncCE.dll
► MNResources.dll

- ► MNSync.dll
- ► MobileNotes.exe
- ► wbxmllb2.dll
- ► wbxmllib.dll

The files are either installed at once, or during the first successful synchronization.
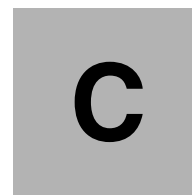
Additional material

This redbook refers to additional material that can be downloaded from the Internet as described below.

Locating the Web material

The Web material associated with this redbook is available in softcopy on the Internet from the IBM Redbooks Web server. Point your Web browser to:

ftp://www.redbooks.ibm.com/redbooks/SG246525

Alternatively, you can go to the IBM Redbooks Web site at:

ibm.com/redbooks

Select the **Additional materials** and open the directory that corresponds with the redbook form number, SG246525.

Using the Web material

The additional Web material that accompanies this redbook includes the following files:

File name   *Description*
Travel.zip   Zipped example database

System requirements for downloading the Web material

Lotus Notes

How to use the Web material

Create a subdirectory (folder) on your workstation, and unzip the contents of the Web material zip file into this folder.

Related publications

The publications listed in this section are considered particularly suitable for a more detailed discussion of the topics covered in this redbook.

IBM Redbooks

For information on ordering these publications, see "How to get IBM Redbooks" on page 395.

- ► *iNotes Web Access Deployment and Administration,* SG24-6518
- ► *Mobile Applications with IBM WebSphere Everyplace Access Design and Development,* SG24-6259
- ► *Using Domino Workflow*, SG24-5963
- ► *Lotus Sametime Application Development Guide*, SG24-5651
- ► *COM Together — with Domino*, SG24-5670
- ► *Lotus Notes and Domino Take Center Stage*, SG24-5630
- ► *Performance Considerations for Domino Applications*, SG24-5602
- ► *Lotus Domino Release 5.0: A Developer's Handbook*, SG24-5331-01
- ► *Connecting Domino to the Enterprise Using Java*, SG24-5425
- ► *LotusScript for Visual Basic Programmers*, SG24-4856
- ► *Developing Web Applications Using Lotus Notes Designer for Domino 4.6*, SG24-2183
- ► *Lotus Notes 4.5: A Developers Handbook*, SG24-4876,
- ► *Lotus Solutions for the Enterprise, Volume 1. Lotus Notes: An Enterprise Application Platform*, SG24-4837
- ► *Lotus Solutions for the Enterprise, Volume 2. Using DB2 in a Domino Environment*, SG24-4918
- ► *Lotus Solutions for the Enterprise, Volume 3. Using the IBM CICS Gateway for Lotus Notes*, SG24-4512

Other resources

These publications are also relevant as further information sources:

► *Connecting Nokia 9210 Communicators with Lotus Domino Environment, White paper*

► *A Roadmap for Deploying Domino in the Organization*, SG24-5617

► *The Three Steps to Super.Human.Software: Compare, Coexist, Migrate; From Microsoft Exchange to Lotus Domino, Part One: Comparison* SG24-5614

► *The Three Steps to Super.Human.Software: Compare, Coexist, Migrate; From Microsoft Exchange to Lotus Domino, Part Two: Coexistence and Migration*, SG24-5615

► *Lotus Notes and Domino R5.0 Security Infrastructure Revealed*, SG24-5341

► *Lotus Notes and Domino: The Next Generation in Messaging. Moving from Microsoft Mail to Lotus Notes and Domino*, SG24-5152

► *Eight Steps to a Successful Messaging Migration: A Planning Guide for Migrating to Lotus Notes and Domino*, SG24-5335

► *Deploying Domino in an S/390 Environment*, SG24-2182

► *The Next Step in Messaging: Case Studies on Lotus cc:Mail to Lotus Domino and Lotus Notes*, SG24-5100

► *Lotus Notes and Domino: The Next Generation in Messaging. Moving from Novell GroupWise to Lotus Notes and Domino*, SG24-5321

Referenced Web sites

These Web sites are also relevant as further information sources:

► Homepage for Lotus Everyplace products

    `http://www.lotus.com/home.nsf/welcome/domeveryplace`

► Lotus mobile and wireless solutions

    `http://www.lotus.com/wireless`

► IBMs pervacive computing homepage

    `http://www.ibm.com/pvc`

► Internet site with resource around WAP technology

    `http://www.wap.com/`

► Forum Nokia for developers

    `http://www.forum.nokia.com/`

- ▶ Ericsson's developer site

  `http://www.ericsson.com/mobilityworld/`

- ▶ Palm Computing homepage

  `http://www.palm.com`

- ▶ PocketPC homepage

  `http://www.pocketpc.com`

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IBM

Redbooks

Lotus Mobile and Wireless Solutions

Lotus Mobile and Wireless Solutions

Installation and setup

Enabling and extending existing applications

Deployment considerations

This IBM Redbook explains the new mobile and wireless solutions from Lotus Solutions and IBM. The products described include: Lotus EasySync Pro 4.0, Domino Everyplace Access Server 2.1, Domino Everyplace Enterprise Server 2.5 and 2.6, Domino Everyplace SMS 2.0, Sametime Everyplace 1.0, and IBM Mobile Connect 2.5.1.

We start out by giving a brief description of the products and discuss how each one may be deployed in an organization. The book is then divided into three parts: PIM synchronization, Online access, and Mobile applications. Each product falls into one of these categories. In each part we cover the installation in great detail, and mention important issues concerning deployment. We also show how you can develop solutions by using these products.

We have tried to include most of the information you will need to install, tailor, and configure the products, but this book should not be considered as a replacement for the product documentation.